

# TC-W370/W411/WR511/WR570

## SERVICE MANUAL

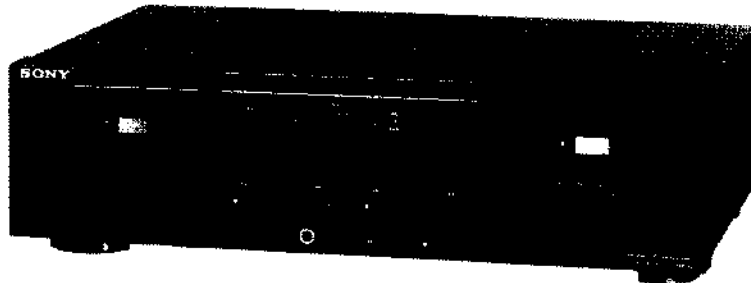


Photo: TC-WR570

*US Model*  
TC-W370/W411/WR511/WR570  
*Canadian Model*  
*AEP Model*  
*UK Model*  
*E Model*  
TC-W370/WR570

### SPECIFICATIONS

Recording system 4-track 2-channel stereo  
Fast winding time Approx. 90 sec. (with Sony C-60 cassette)  
Bias AC bias  
Signal-to-noise ratio (at peak level)

Dolby NR switch	OFF	B-Type ON	C-Type ON
Cassette			
Type IV (Sony METAL-SLT/S)	58 dB	66 dB	73 dB
Type II (Sony UX-S)	57 dB	65 dB	72 dB
Type I (Sony HF-S)	55 dB	63 dB	70 dB

Total harmonic distortion 1.0% (with Sony METAL-SLT/S cassettes)  
Frequency response (DOLBY NR OFF)

Type IV cassette (Sony METAL-SLT/S)	30 - 15,000 Hz ( $\pm 3$ dB, IEC) 30 - 13,000 Hz [ $\pm 3$ dB 0VU (-4 dB) recording]
Type II cassette (Sony UX-S)	30 - 15,000 Hz ( $\pm 3$ dB, IEC)
Type I cassette (Sony HF-S)	30 - 14,000 Hz ( $\pm 3$ dB, IEC)

Wow and flutter  $\pm 0.14\%$  W. Peak (IEC)  
0.08% WRMS (NAB)  
 $\pm 0.19\%$  W. Peak (DIN)

#### Inputs

Line inputs (phono jacks)	Sensitivity	77.5 mV
	Input impedance	47 k ohms

#### Outputs

Line outputs (phono jacks)	Rated output level	0.32 V at a load impedance of 47 k ohms
	Load impedance	Over 10 k ohms
Headphones (stereo phono jack)	Output level	0.3 mW at a load impedance of 32 ohms

Model Name Using Similar Mechanism	TC-W320/W320S /WR520/WR520S		
Tape Transport Mechanism Type	TC-W370 / W411	DECK A	TCM-190VA12
		DECK B	TCM-190VB12
	TC-WR511	DECK A	TCM-190RA12
		DECK B	TCM-190RB22
	TC-WR570	DECK A	TCM-190RA12
		DECK B	TCM-190RB12

#### General

Power requirements US, Canadian model: 120V AC, 60Hz  
AEP, Germany model: 220V AC, 50/60Hz  
UK model: 240V AC, 50/60Hz  
E model: 120, 220, 240V  
AC adjustable, 50/60Hz

Power consumption 23 W

Dimensions Approx. 430 x 125 x 285 mm (w/h/d)  
(17 x 5 x 11 1/4 inches)  
including projecting parts and controls

Weight

Approx. 4.5 kg (9 lbs 15 oz)


#### Supplied accessory

Audio connecting cords (2)

Design and specifications subject to change without notice.

#### Note

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

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

# STEREO CASSETTE DECK

# SONY®

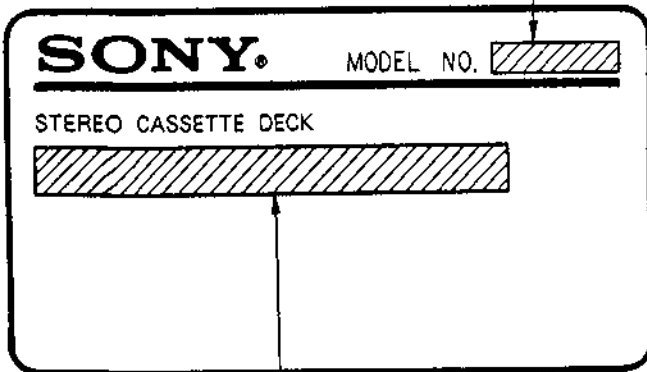


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**MODEL IDENTIFICATION**  
(Specification Label)

TC-W370  
TC-W411  
TC-WR511  
TC-WR570



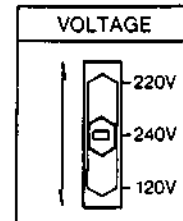
US, Canadian model: AC120V 60Hz 23W  
 UK model: AC240V ~50/60Hz  
 Germany, AEP model: AC220-230V ~50/60Hz  
 E model: AC120, 220, 240V ~50/60Hz 23W

**Operating voltage (E model)**

Operate the unit on either 120, 220 or 240 V AC, 50/60 Hz. Before connecting the unit to the power source, check that the operating voltage of your unit is the same as the local power line voltage.

The voltage selector is located on the rear panel. If the selector must be reset, disconnect the AC power cord and set the selector to the appropriate voltage.

VOLTAGE Selector



## SAFETY CHECK-OUT

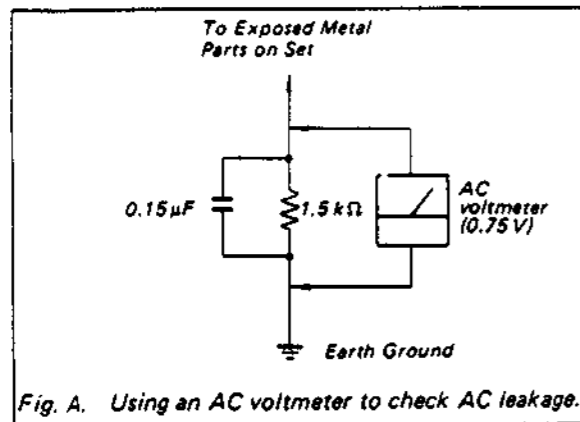
After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

### LEAKAGE TEST

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

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



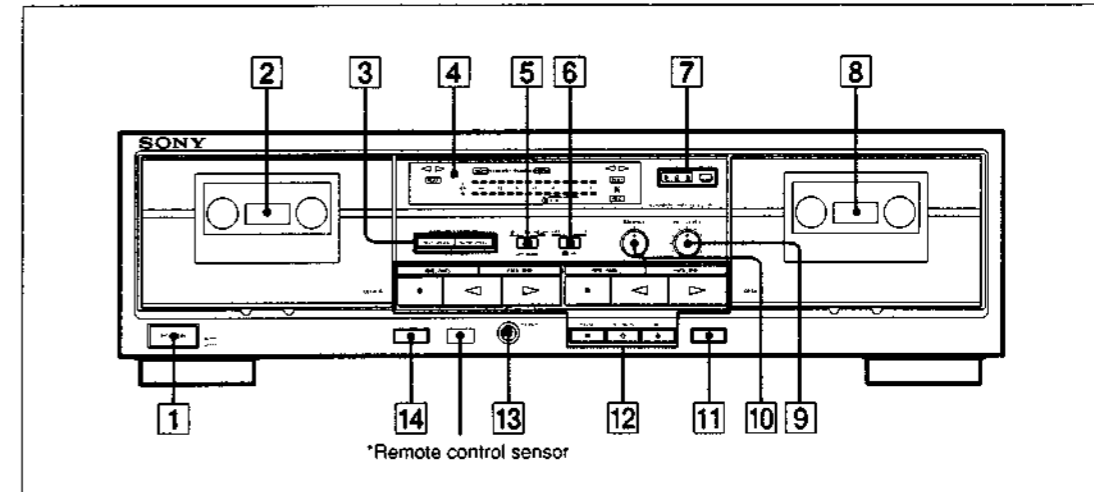
**SAFETY-RELATED COMPONENT WARNING!!**  
COMPONENTS IDENTIFIED BY MARK OR DOTTED LINE WITH MARK ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

**ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!**  
LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

## SECTION 1 GENERAL

This section is extracted from instruction manual.

### Identification of Front Panel Parts



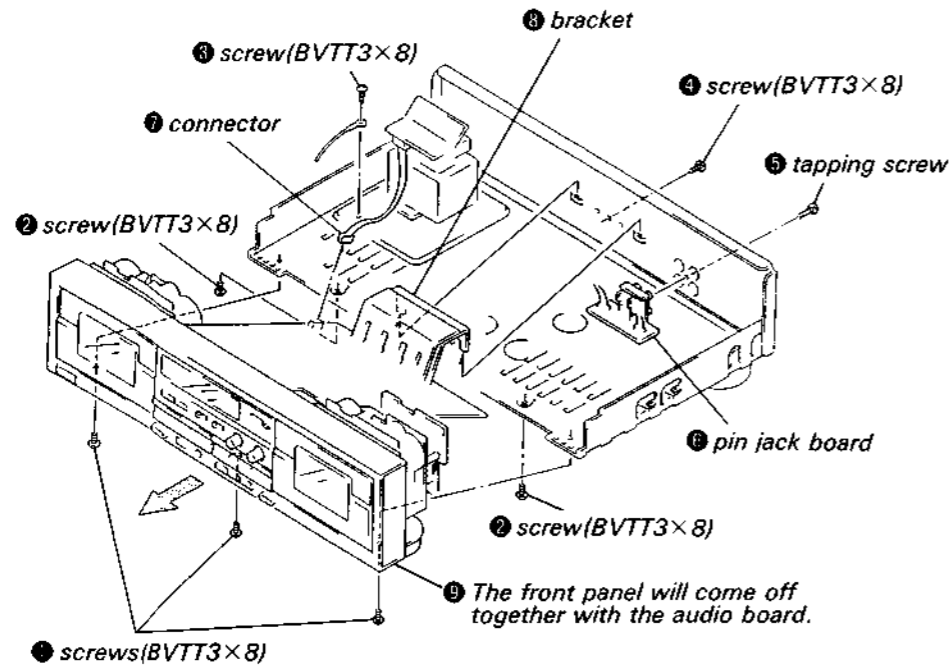
For details, refer to the page number indicated in ●

- |  |  |
|--|--|
| <p>1 POWER switch</p> <p>2 Deck A</p> <p>3 SYNCHRO DUBBING buttons ●<br/>HIGH SPEED button<br/>NORM (normal) SPEED button</p> <p>4 Display panel</p> <p>5 DIR (direction) MODE switch<br/>(TC-WR570/WR511 only) ● ② ③ ④ ⑤</p> <p>6 NR (Dolby noise reduction) switch ● ⑥</p> <p>7 Tape COUNTER and RESET button</p> <p>8 Deck B</p> <p>9 REC (recording) LEVEL control ⑨</p> <p>10 BALANCE control ⑩</p> <p>11 Eject button (deck B)</p> | <p>12 Tape operation buttons<br/>■ (stop) button<br/>◀ (AMS**) (leftward fast winding) button<br/>◀ (reverse play) button (TC-WR570/WR511 only)<br/>▶ (forward play) button<br/>▶ (AMS**) (rightward fast winding) button<br/>   PAUSE button (deck B only)<br/>○ REC MUTE (record muting) button (deck B only) ●<br/>● REC (recording) button (deck B only)</p> <p>13 PHONES (headphones) jack (stereo phone jack)</p> <p>14 Eject button (deck A)</p> <p>*Remote control sensor<br/>You can remotely control this cassette deck with:<br/>— A remote commander that came with a Sony amplifier or receiver if it has the  mark and cassette deck control capability.<br/>— Any optional Sony remote commander with the  mark and cassette deck control capability.</p> <p>**AMS is an abbreviation for Automatic Music Sensor.</p> |
|--|--|

## SECTION 2 DISASSEMBLY

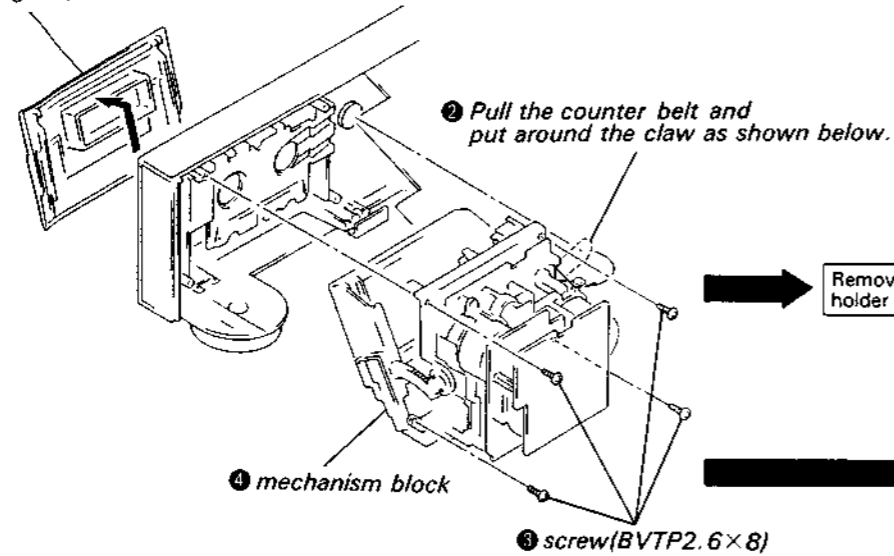
**Note:** Follow the disassembly procedure in the numerical order given.

### [FRONT PANEL]



### [MECHANISM BLOCK]

① Press the eject button and remove the cassette lid by sliding it upward.

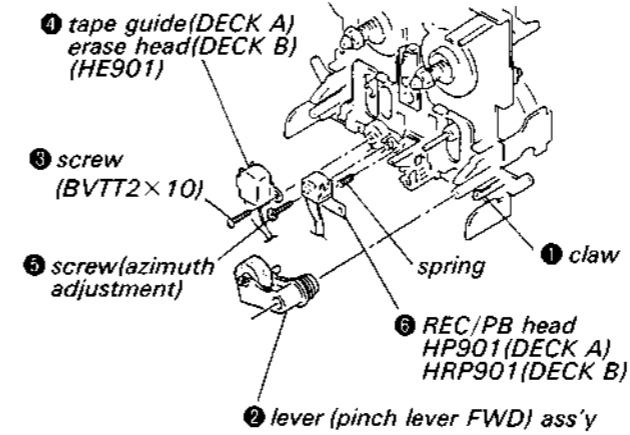


Remove the cassette holder assembly.

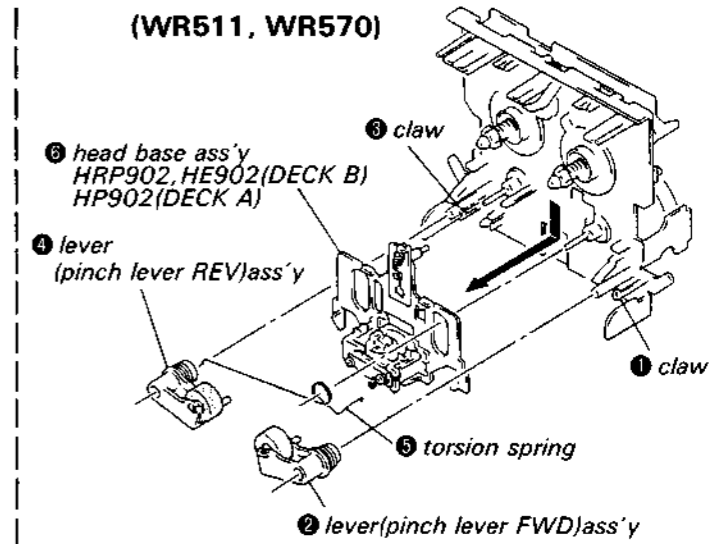
- W370 :TC-W370
- W411 :TC-W411
- WR511:TC-WR511
- WR570:TC-WR570

### [HEAD]

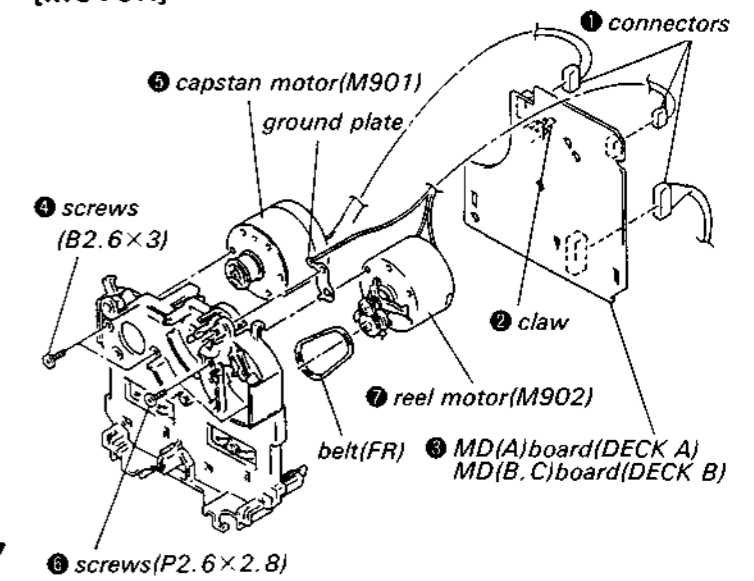
(W370, W411)



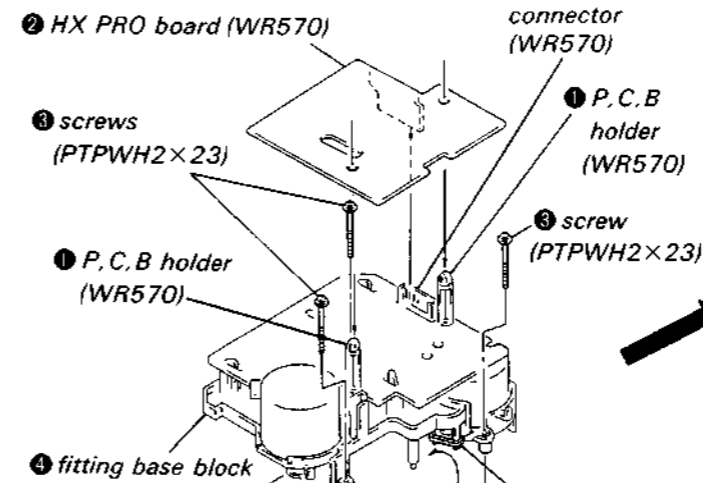
(WR511, WR570)



### [MOTOR]



### [FITTING BASE BLOCK]



(When installing, pull the FR belt and put around the claws as shown below.)

(When installing, pull the capstan belt and put around the claws as shown below.)

## SECTION 3 ADJUSTMENTS

### 3-1. MECHANICAL ADJUSTMENTS

#### PRECAUTION

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

record/playback head	pinch roller
erase head	rubber belts
capstan	idler
- Demagnetize the record/playback head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed in the rated power supply voltage unless otherwise noted.

#### Torque Measurement

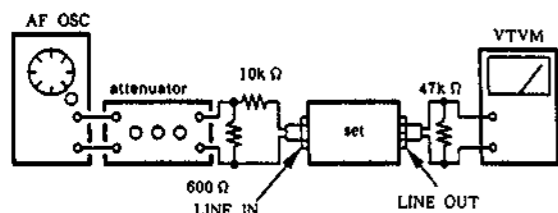
Torque	Torque meter	Meter reading
FWD	CQ-102C	30 to 65g · cm (0.42 to 0.9 oz · inch)
FWD Back tension	CQ-102C	DECK A : 1 to 6g · cm (0.014 to 0.08 oz · inch) DECK B : 2 to 9g · cm (0.03 to 0.12 oz · inch)
REV (TC-WR511/WR570)	CQ-102RC	30 to 65g · cm (0.42 to 0.9 oz · inch)
REV Back tension (TC-WR511/WR570)	CQ-102RC	1 to 6g · cm (0.014 to 0.08 oz · inch)
FF. REW	CQ-201B	70 to 120g · cm (0.98 to 1.67 oz · inch)

### 3-2. ELECTRICAL ADJUSTMENT

**Note:** The adjustment should be performed in the order given in the service manual. As a rule, adjustment about playback should be performed before adjustment about recording. The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.
  - NR switch : OFF
  - DIR MODE switch :  $\rightarrow$
- Standard Record: Deliver the standard input signal level to the input jack and set the REC LEVEL control to obtain the standard output signal level.

#### - Record Mode -



#### Standard Input Level

input terminal	LINE IN
source impedance	10kΩ
input level	0.25V (-10dB)

#### Standard Output Level

output terminal	LINE OUT
load impedance	47kΩ
output level	0.44V (-5dB)

#### Test tape

Type	Signal	Used for
P-4-A100	10kHz, -10dB	Azimuth Adjustment
P-4-L300	315Hz, 0dB	PB Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

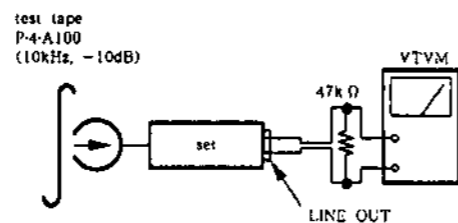
0dB=0.775V

#### Record/Playback Head Azimuth Adjustment

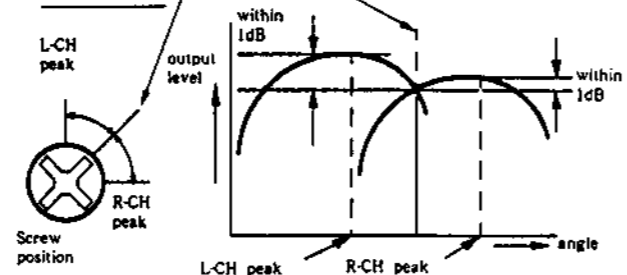
**DECK A DECK B**

#### Procedure:

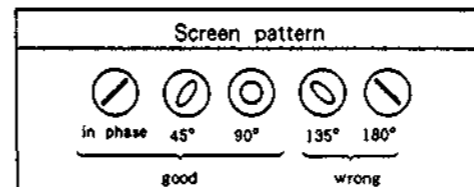
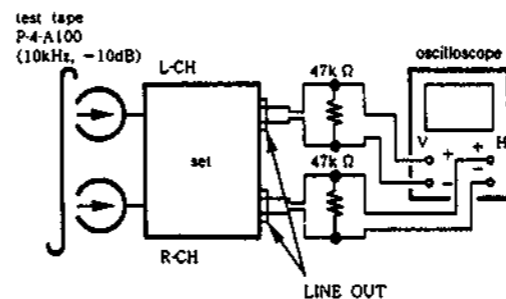
- Mode: FWD playback



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

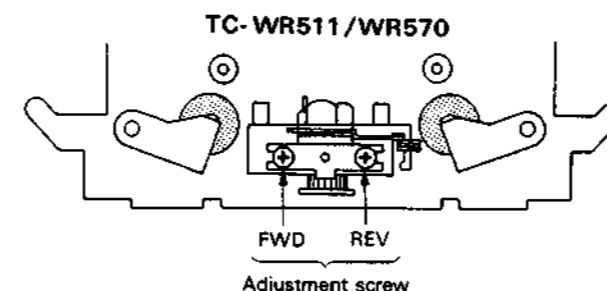
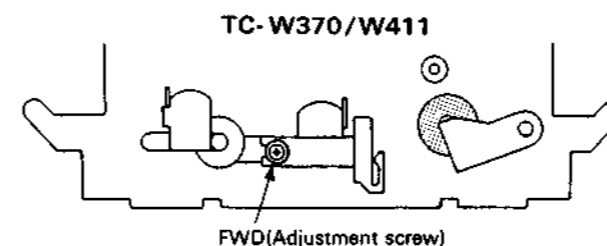


- Phase Check  
Mode: playback



- Set in the REV mode and repeat the step 1-3. (TC-WR511/WR570)
- After the adjustment, lock the screws with locking compound.

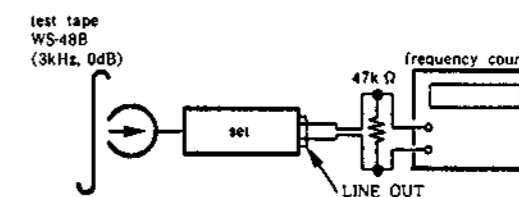
#### Adjustment Location: Record/playback head



#### Tape Speed Adjustment **DECK A DECK B**

#### Procedure:

- Mode: playback



Perform high speed adjustment before normal speed adjustment.

(high speed adjustment)

- Short test pin CN805 on audio board and turn POWER switch on.
- Set to FWD playback mode.
- Keep on pressing the HIGH SPEED DUBBING switch.
- Adjust RV72 so that the frequency counter reading becomes  $6,000 \pm 20$ Hz.
- After adjustment, disconnect CN805 shorted in step 1.

(normal speed adjustment)

- Set to FWD playback mode.
- Adjust RV71 so that the frequency counter reading becomes  $3,000 \pm 10$ Hz.

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

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

#### Adjustment Location:

MD-A, MD-B, MD-C board

#### Playback

**DECK A**

#### Procedure:

- Mode: pla

test tape  
P-4-L300  
(315Hz, 0dB)

Adjust RV11 reading on V

#### Adjustment

LINE OU

Level dif

Check that playback mo

to stop sever

#### Adjustment

( ) : R-CH

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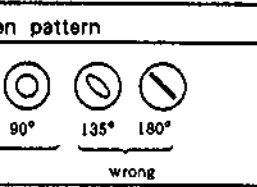
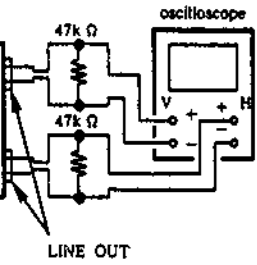
#### Adjustment

becomes

## Tape Speed Adjustment **DECK A** **DECK B**

### Procedure :

Mode: playback

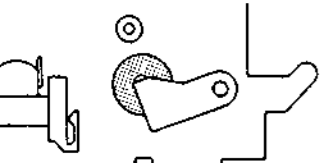


Repeat the step 1-3.

Lock the screws with locking

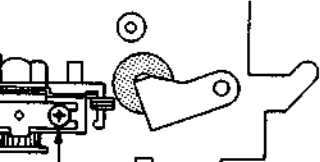
Record/playback head

TC-W411



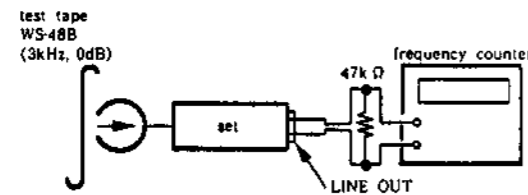
Adjustment screw

TC-WR570



REV

Adjustment screw



Perform high speed adjustment before normal speed adjustment.

(high speed adjustment)

1. Short test pin CN805 on audio board and turn POWER switch on.
2. Set to FWD playback mode.
3. Keep on pressing the HIGH SPEED DUBBING switch.
4. Adjust RV72 so that the frequency counter reading becomes  $6,000 \pm 20\text{Hz}$ .
5. After adjustment, disconnect CN805 shorted in step 1.

(normal speed adjustment)

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

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

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

Adjustment Location :

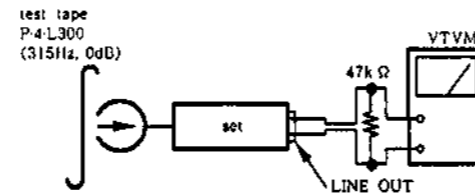
MD-A, MD-B, MD-C board

## Playback Level Adjustment

**DECK A** **DECK B**

### Procedure :

Mode: playback



Adjust RV11 (L-CH), RV21 (R-CH) so that the reading on VTVM meets the adjustment limits below.

### Adjustment Limits :

LINE OUT level:  $-5 \pm 0.5\text{dB}$  (0.42-0.46V)

Level difference between channels: less than 0.5dB

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

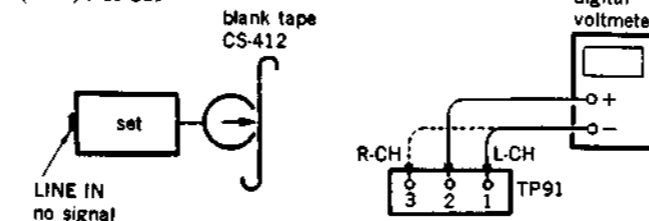
Adjustment Location : MD-A, MD-B, MD-C board

## Bias Consumption Current Adjustment **DECK B**

This adjustment should be performed when replacing the head assy or the bias oscillating transformer (T51, T71), or DOLBY HX PRO IC (IC91). (TC-WR570)

### Procedure :

( ) : R-CH



1. Connect the digital voltmeter to test point TP91.
2. Set RV42 (RV62) to mechanical center.
3. Set to FWD record mode.
4. Adjust T51 (T71) so that the digital voltmeter reading becomes minimum.

Adjustment Location : HX PRO board

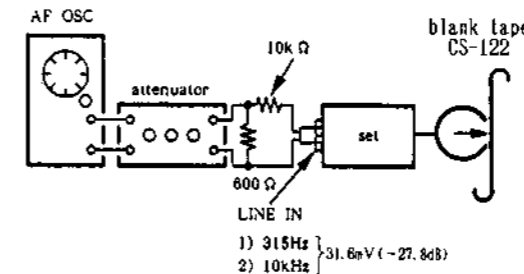
## Record Bias Adjustment **DECK B**

### Setting :

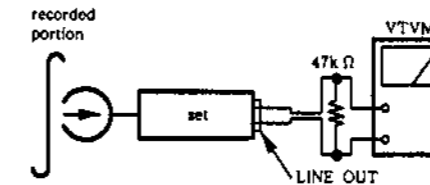
REC LEVEL control: Standard Record (See page 7.)

### Procedure :

1. Mode: record



2. Mode: playback



Playback the signal recorded in step 1.

Confirm that the 10kHz playback output is  $0 \pm 0.5\text{dB}$  relative to the 315Hz output. If necessary, adjust RV12 (L-CH), RV22 (R-CH) and repeat the steps given above.

Adjustment Location : MD-B board

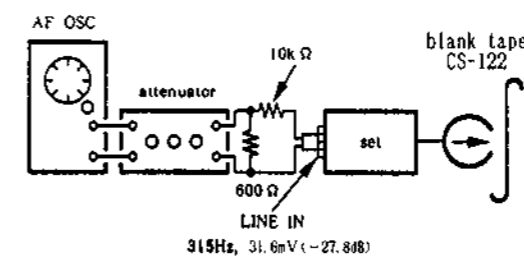
## Record Level Adjustment **DECK B**

### Setting :

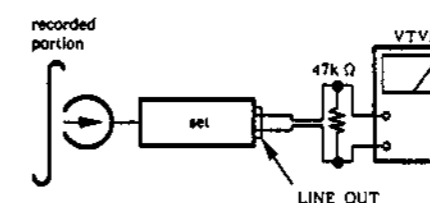
REC LEVEL control: Standard Record (See page 7.)

### Procedure :

1. Mode: record



2. Mode: playback



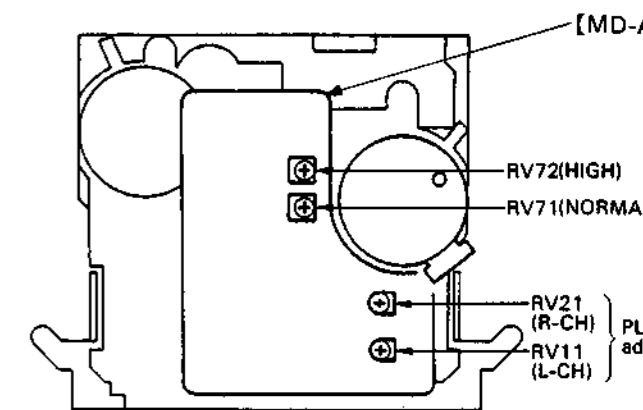
3. Playback the signal recorded in step 1.  
Confirm that the signal level is within the adjustment limits below. If necessary, adjust RV101 (L-CH), RV201 (R-CH) and repeat the step 1-2.

Adjustment Limits :  $-27.8 \pm 0.5\text{dB}$  (29 to 33.4 mV)

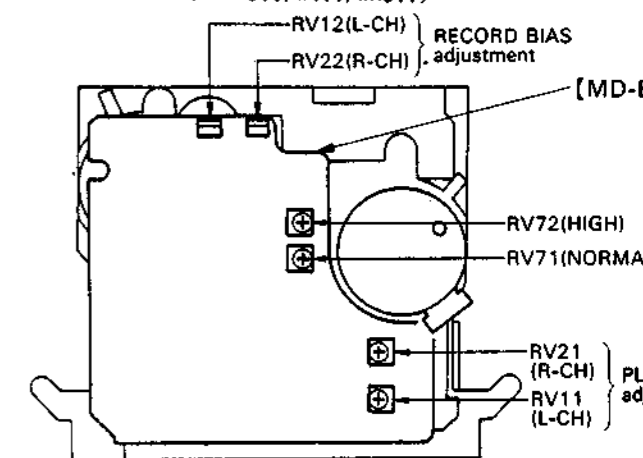
Adjustment Location : audio board (component side)

## - Adjustment Parts Location Diagrams -

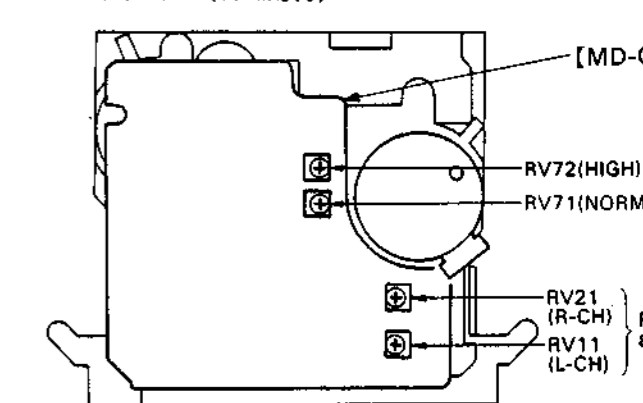
### A DECK



### B DECK (TC-W370/W411/WR511)



### B DECK (TC-WR570)



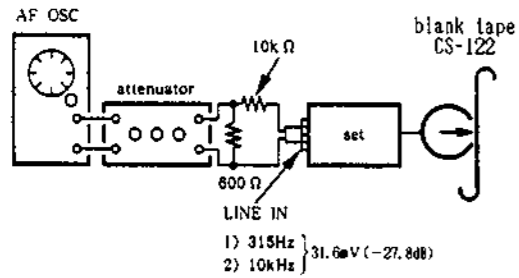
**Record Bias Adjustment DECK B**

**Setting:**

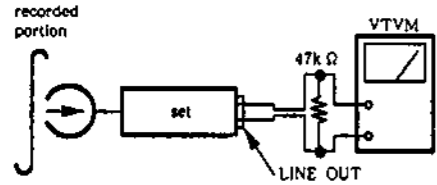
REC LEVEL control: Standard Record (See page 7.)

**Procedure:**

1. Mode: record



2. Mode: playback



Playback the signal recorded in step 1.

Confirm that the 10kHz playback output is  $0 \pm 0.5\text{dB}$  relative to the 315Hz output. If necessary, adjust RV12 (L-CH), RV22 (R-CH) and repeat the steps given above.

**Adjustment Location:** MD-B board

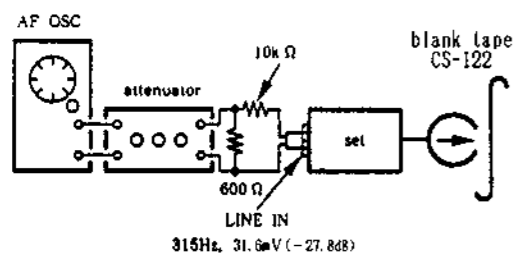
**Record Level Adjustment DECK B**

**Setting:**

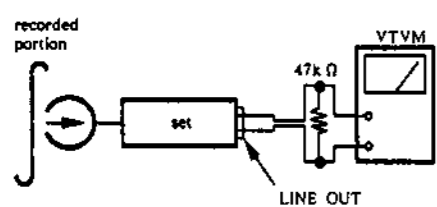
REC LEVEL control: Standard Record (See page 7.)

**Procedure:**

1. Mode: record



2. Mode: playback



3. Playback the signal recorded in step 1.

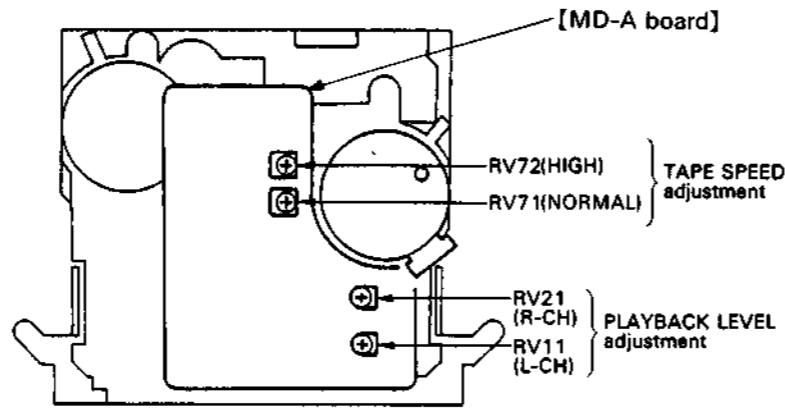
Confirm that the signal level is within the adjustment limits below. If necessary, adjust RV101 (L-CH), RV201 (R-CH) and repeat the step 1-2.

**Adjustment Limits:**  $-27.8 \pm 0.5\text{dB}$  (29 to 33.4 mV)

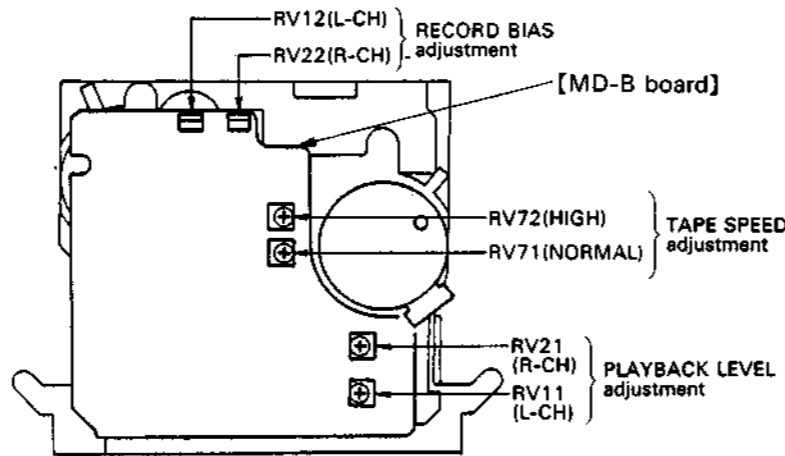
**Adjustment Location:** audio board (component side)

**Adjustment Parts Location Diagrams**

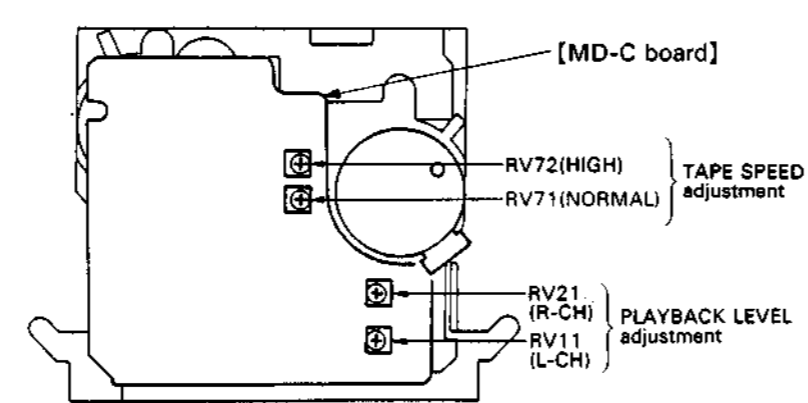
**A DECK**



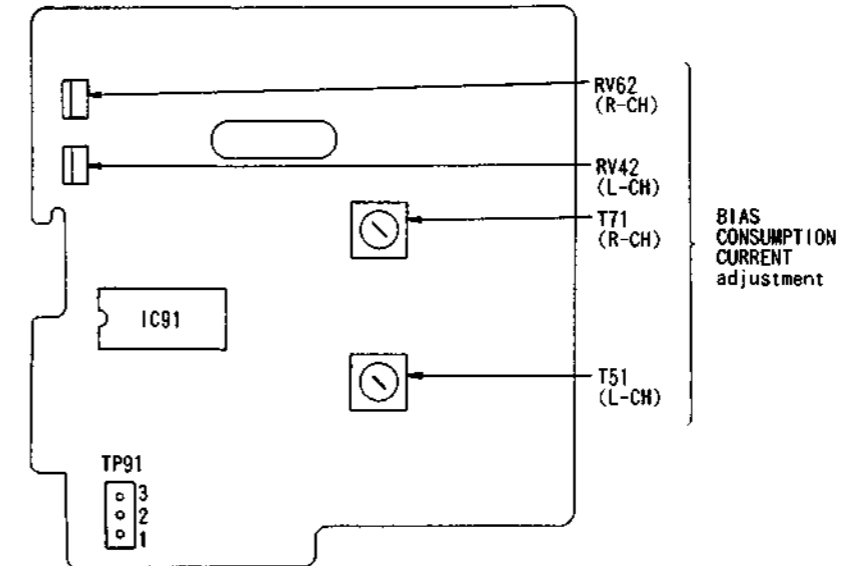
**B DECK (TC-W370/W411/WR511)**



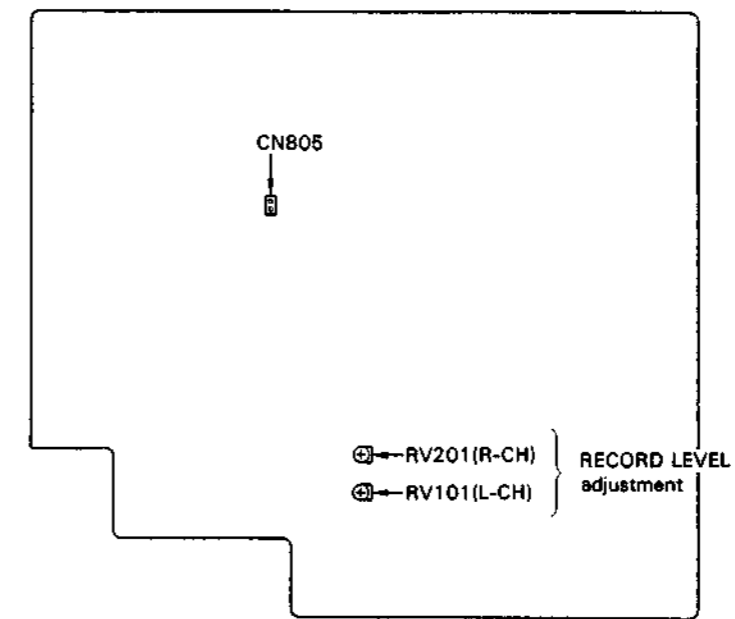
**B DECK (TC-WR570)**



**HX PRO BOARD (COMPONENT SIDE) (TC-WR570)**

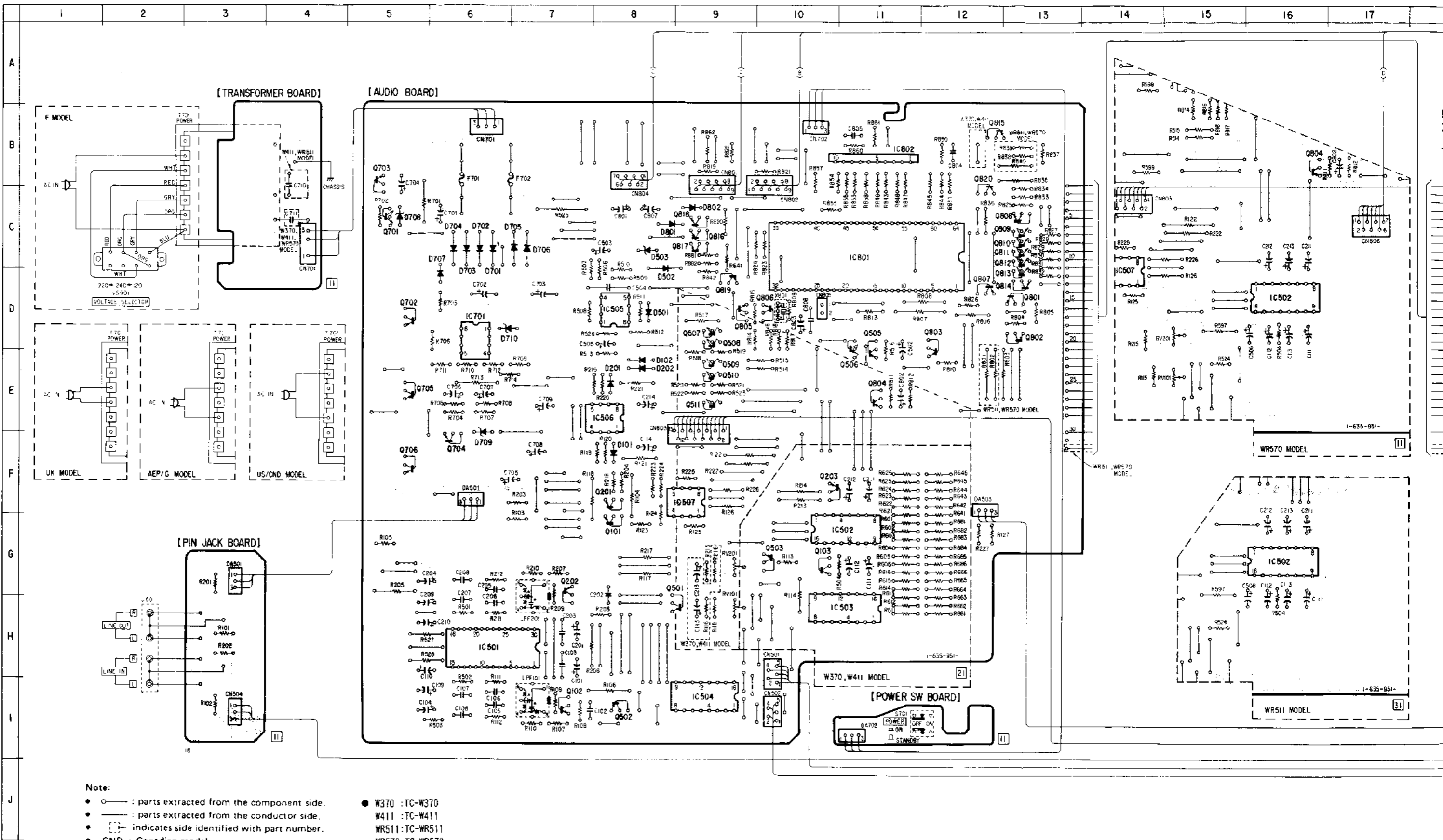


**AUDIO BOARD (COMPONENT SIDE)**

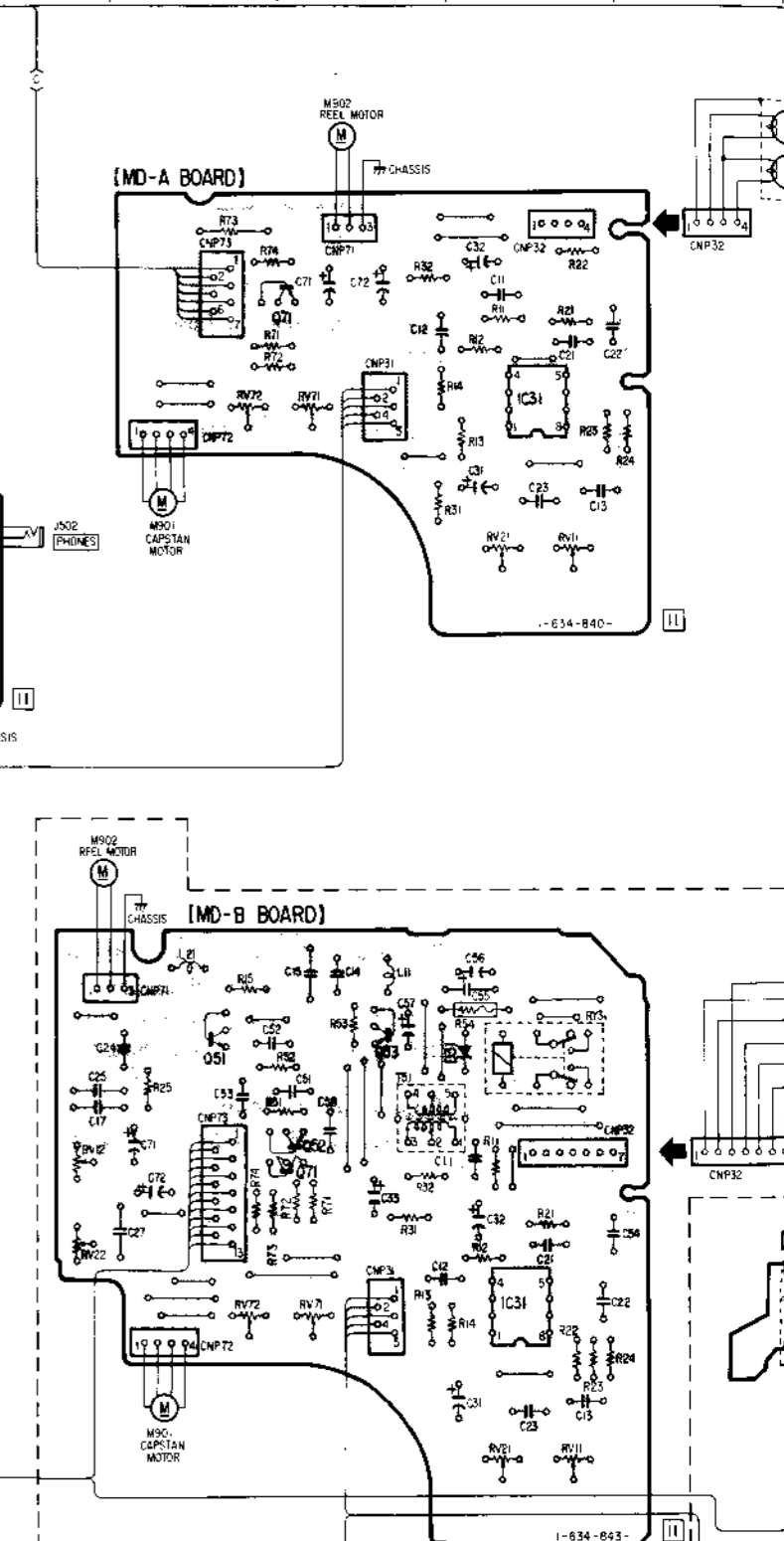
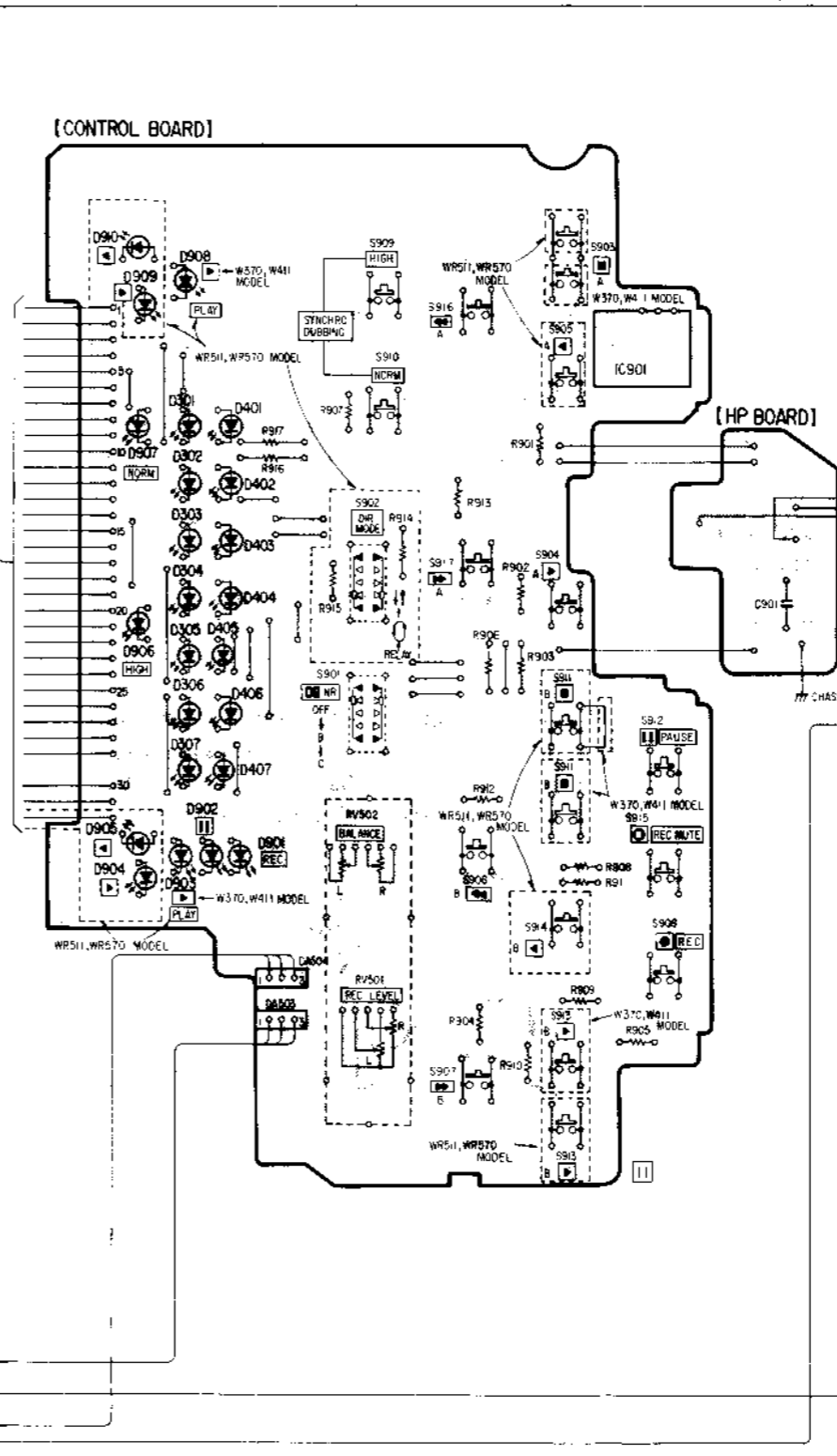
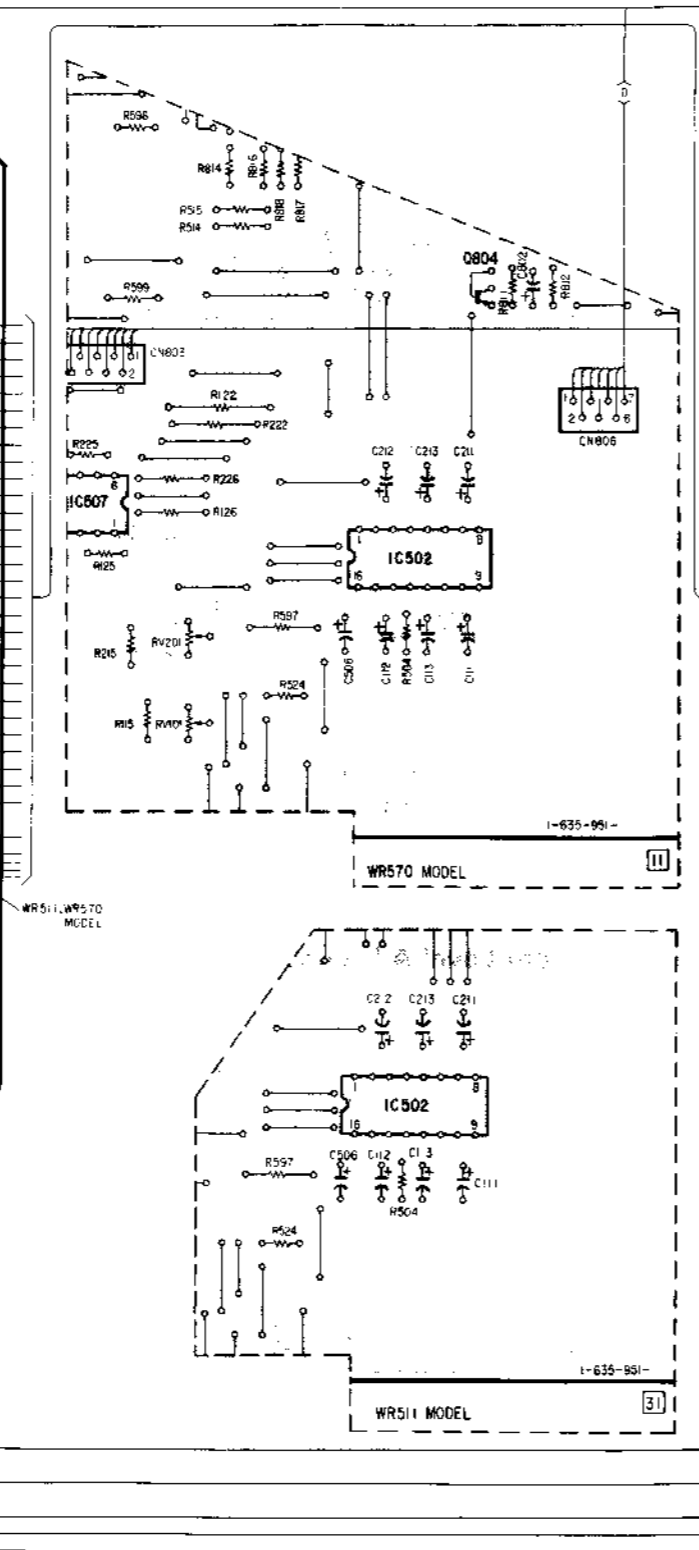
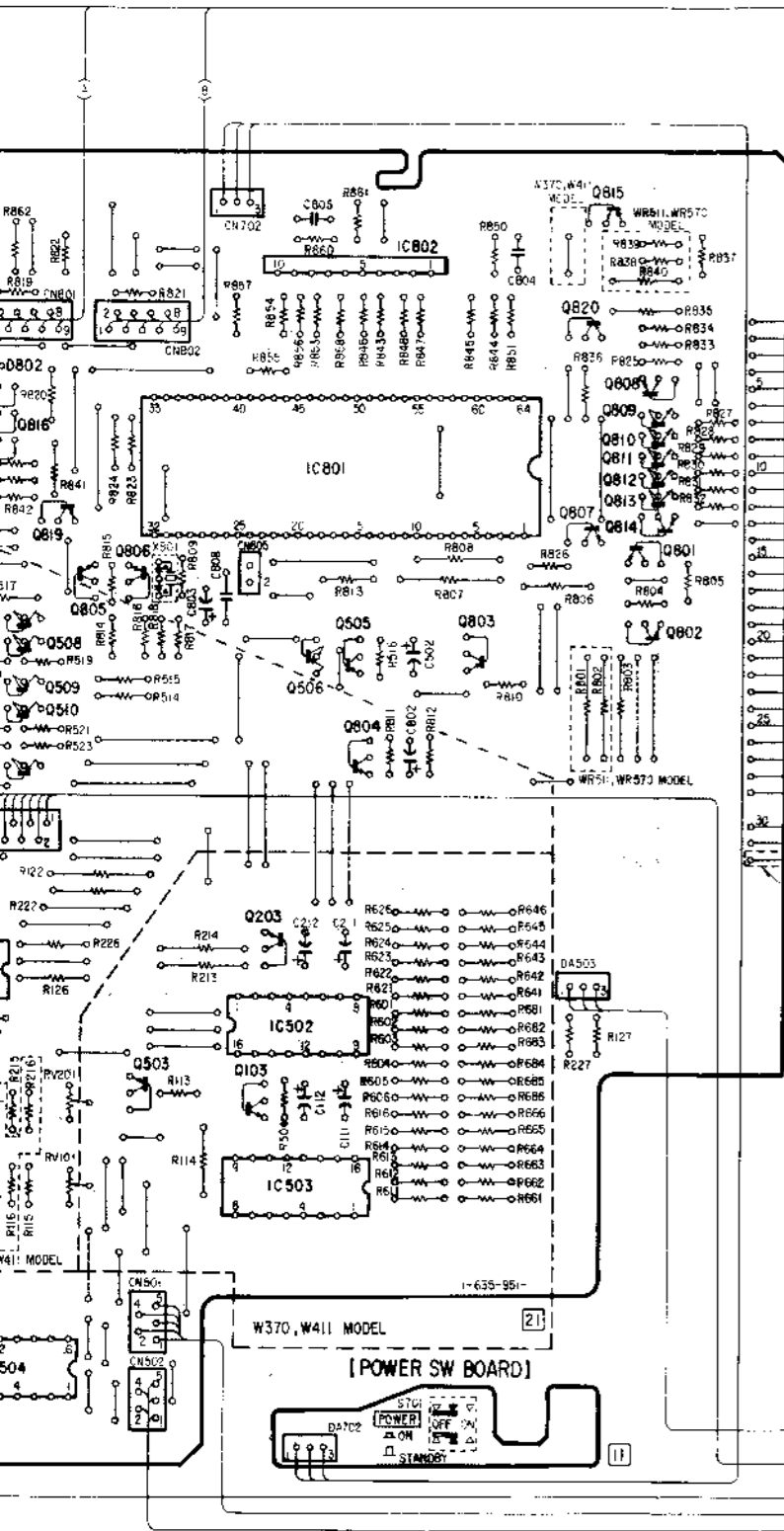


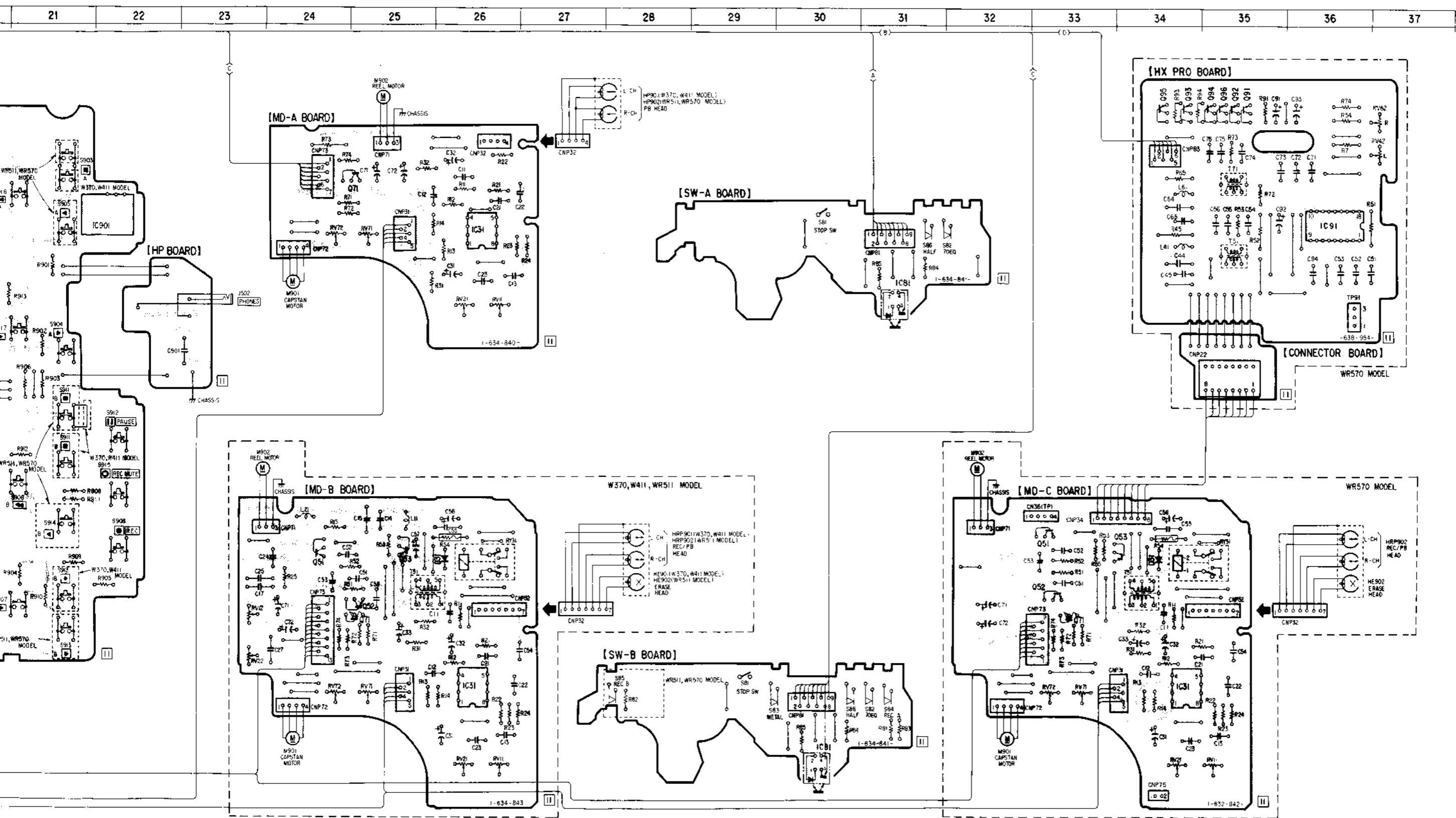
# SECTION 4 DIAGRAMS

4-1. PRINTED WIRING BOARDS • See page 27 for Circuit board Location.









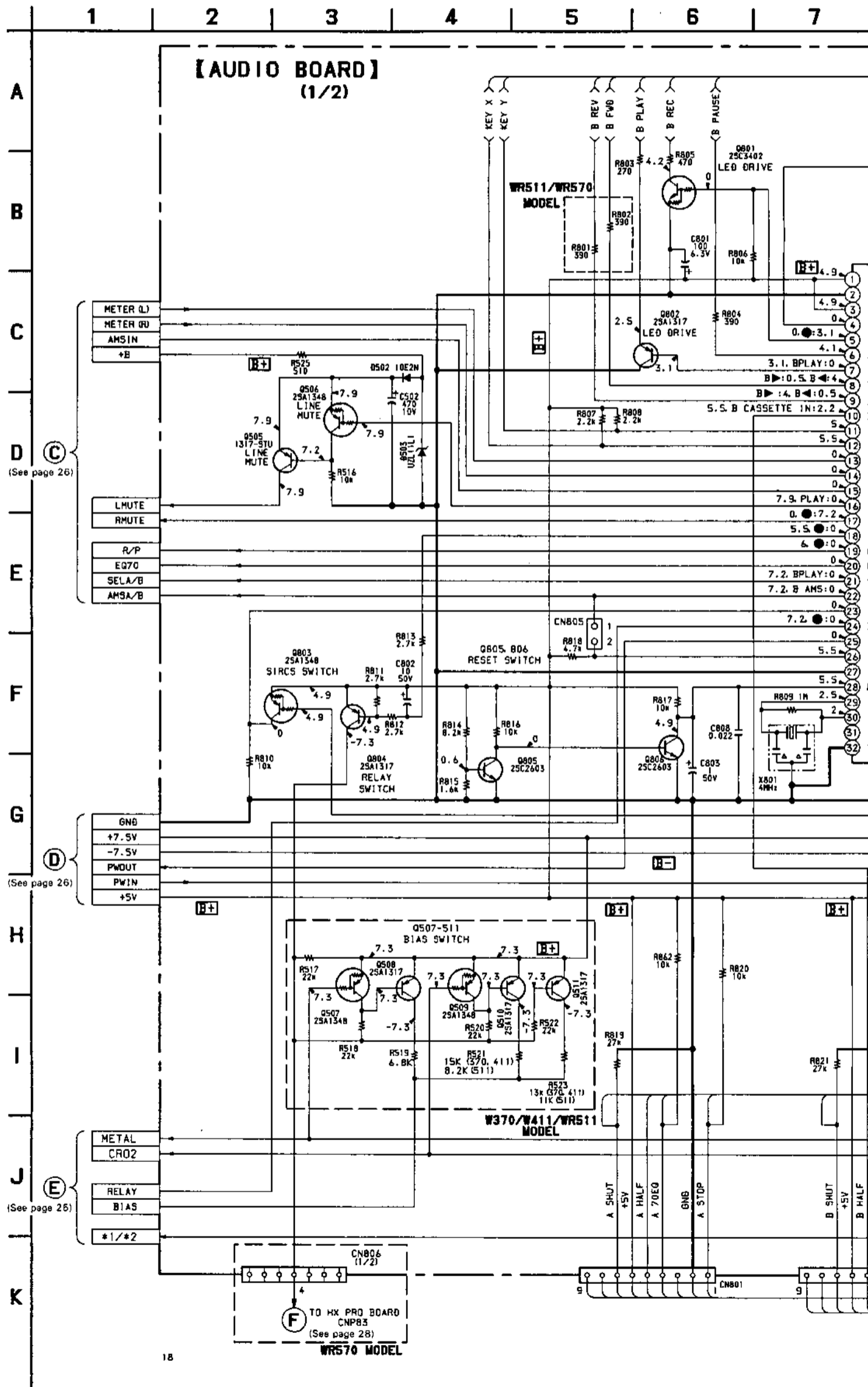
Note:

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

4-2. SCHEMATIC DIAGRAM- System Control Section -

• Semiconductor Locations • ( ): board

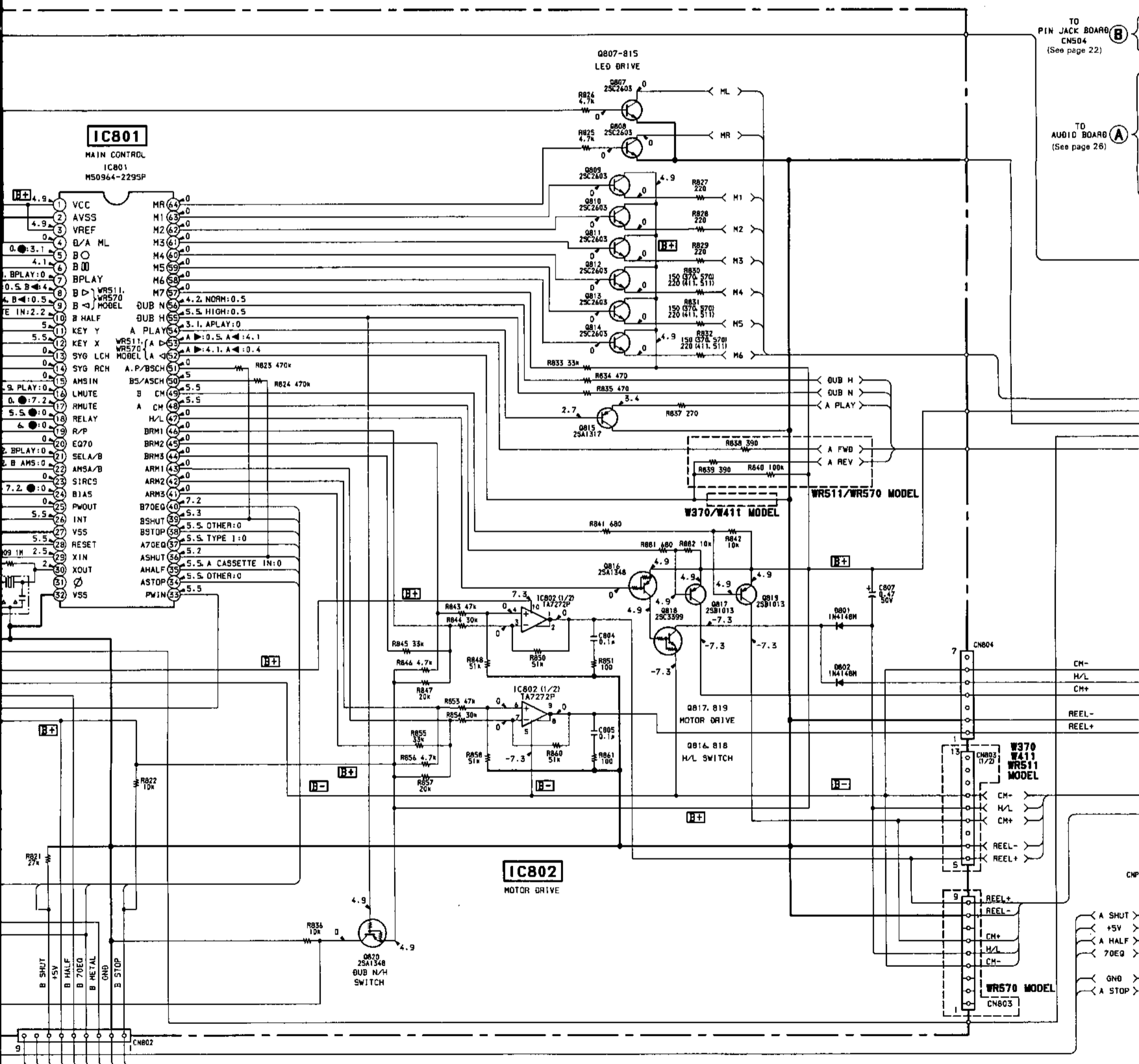
Ref. No.	Location	Ref. No.	Location
D31(MD-B)	G-25	IC802	B-11
D31(MD-C)	G-34	IC901	C-22
D101	F-8		
D102	E-8	Q51(MD-B)	G-24
D201	E-8	Q51(MD-C)	F-33
D202	E-8	Q52(MD-B)	G-24
D301	C-19	Q52(MD-C)	G-33
D302	D-19	Q53(MD-B)	G-25
D303	D-19	Q53(MD-C)	G-34
D304	D-19	Q71(MD-A)	B-24
D305	E-19	Q71(MD-B)	G-24
D306	E-19	Q71(MD-C)	G-33
D307	E-19	Q91	A-35
D401	C-19	Q92	A-35
D402	D-19	Q93	A-34
D403	D-19	Q94	A-35
D404	D-19	Q95	A-34
D405	E-19	Q96	A-35
D406	E-19	Q101	G-8
D407	E-19	Q102	I-7
D501	D-8	Q103	G-10
D502	D-8	Q201	F-8
D503	C-8	Q202	G-7
D701	C-6	Q203	F-10
D702	C-6	Q501	H-9
D703	C-6	Q502	I-8
D704	C-6	Q503	G-10
D705	C-7	Q505	D-11
D706	C-7	Q506	D-11
D707	D-6	Q507	D-9
D708	C-5	Q508	D-9
D709	F-6	Q509	E-9
D710	D-6	Q510	E-9
D801	C-8	Q511	E-9
D802	C-9	Q701	C-5
D901	F-19	Q702	D-5
D902	F-19	Q703	B-5
D903	F-19	Q704	F-6
D904	F-18	Q705	E-5
D905	F-18	Q706	F-5
D906	E-18	Q801	D-13
D907	C-18	Q802	D-13
D908	B-19	Q803	D-12
D909	B-18	Q804	E-11
D910	B-18	Q805	D-9
		Q806	D-10
IC31(MD-A)	C-26	Q807	D-12
IC31(MD-B)	H-26	Q808	C-13
IC31(MD-C)	H-34	Q809	C-13
IC81(SW-A)	D-31	Q810	C-13
IC81(SW-B)	I-30	Q811	C-13
IC91	C-36	Q812	C-13
IC501	H-6	Q813	D-13
IC502	G-11	Q814	D-13
IC503	H-11	Q815	B-12
IC504	I-9	Q816	C-9
IC505	D-8	Q817	C-9
IC506	E-8	Q818	C-9
IC507	F-9	Q819	D-9
IC701	D-6	Q820	C-12
IC801	C-11		

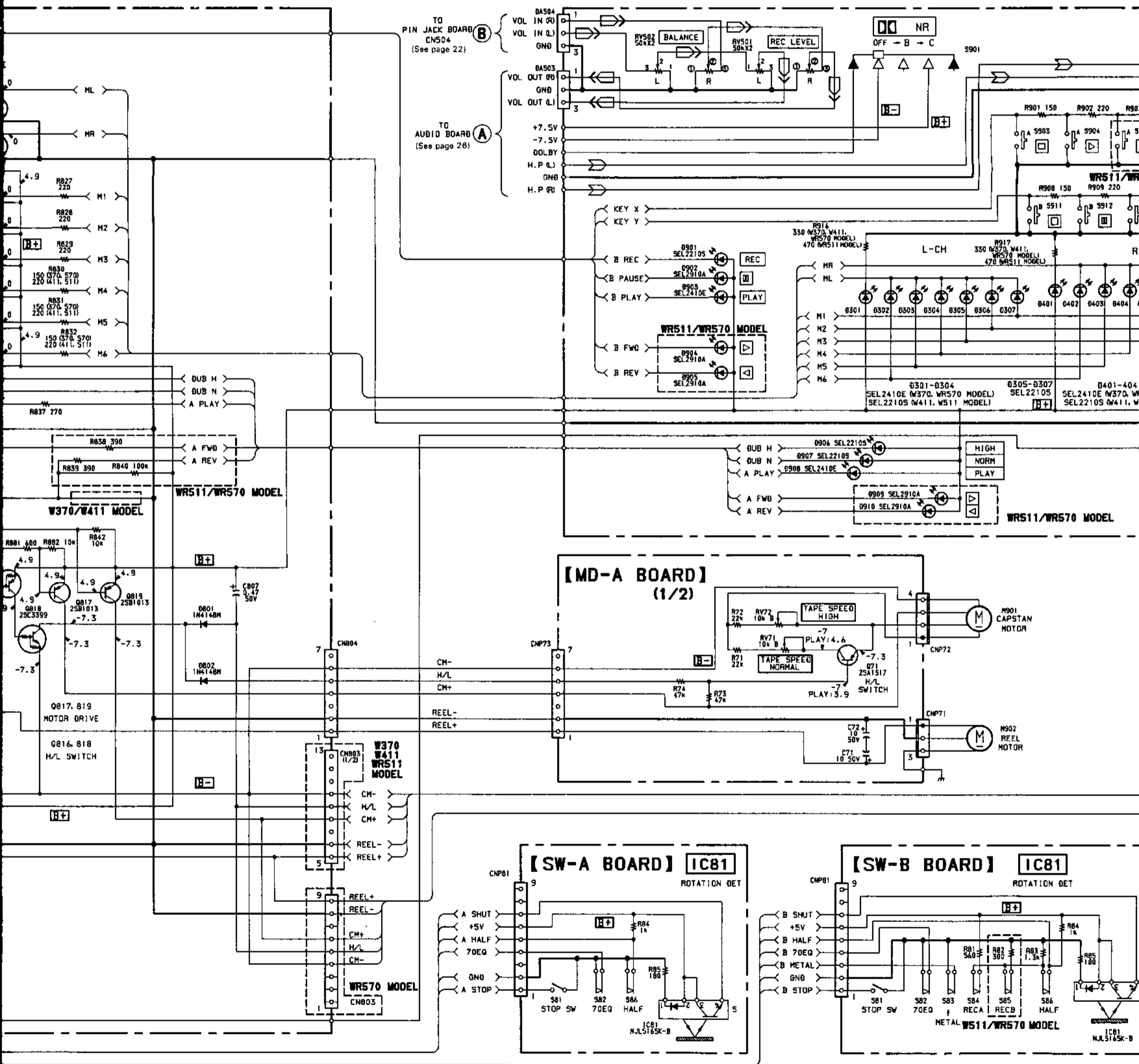


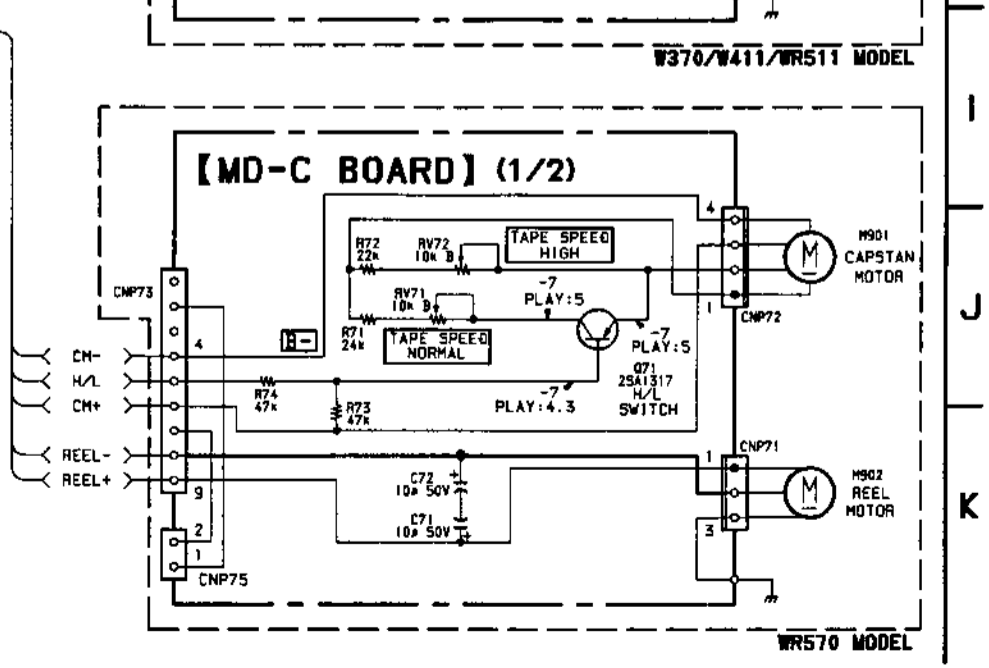
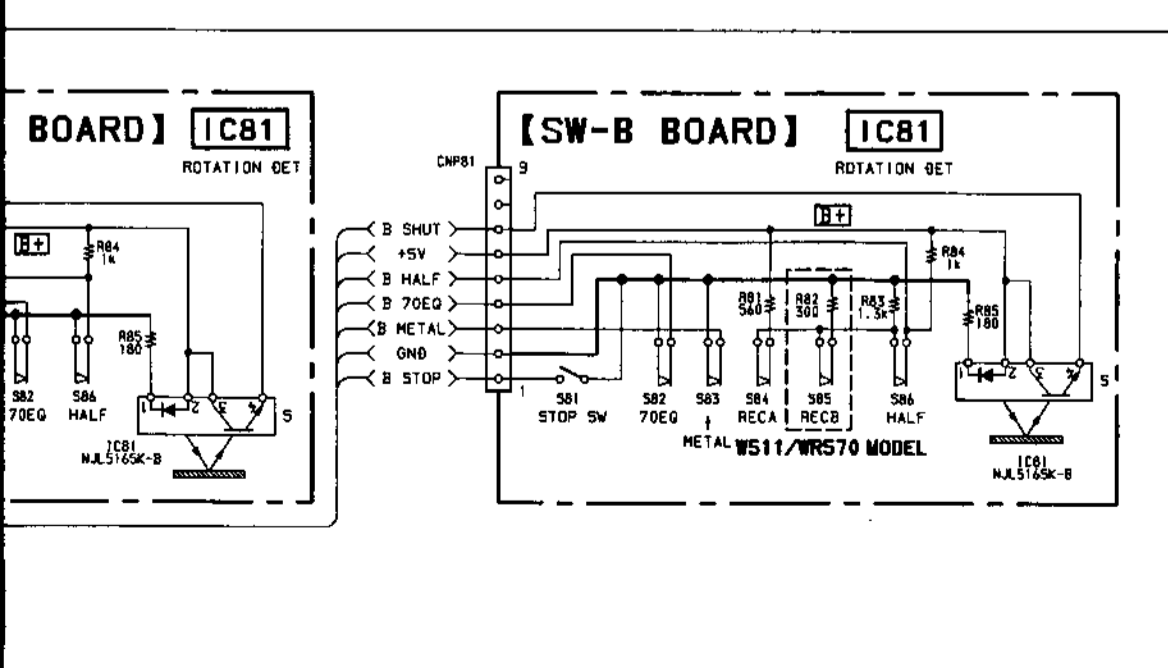
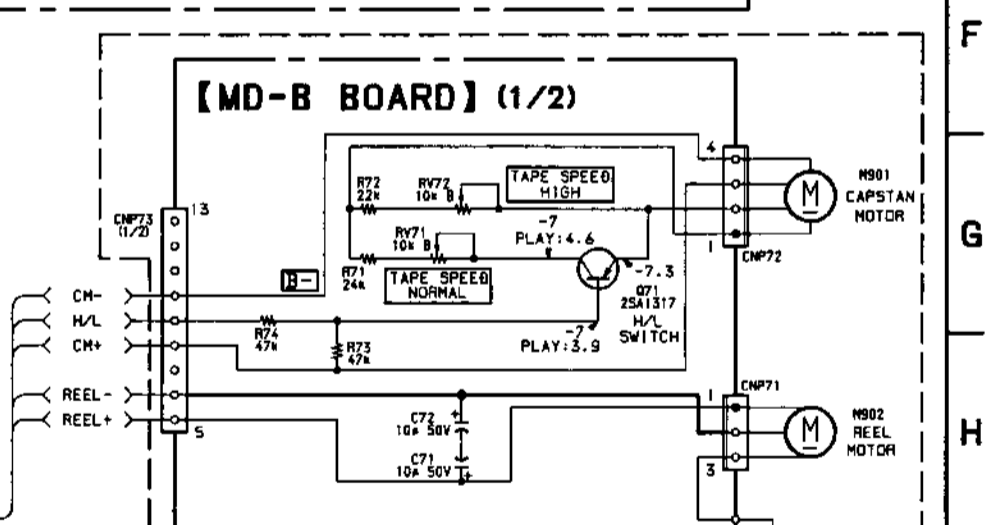
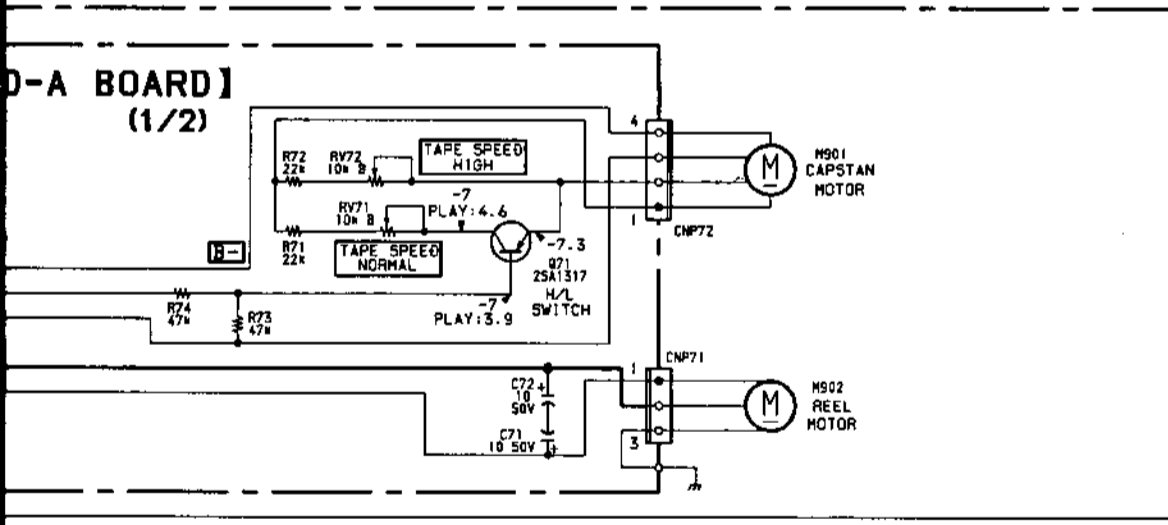
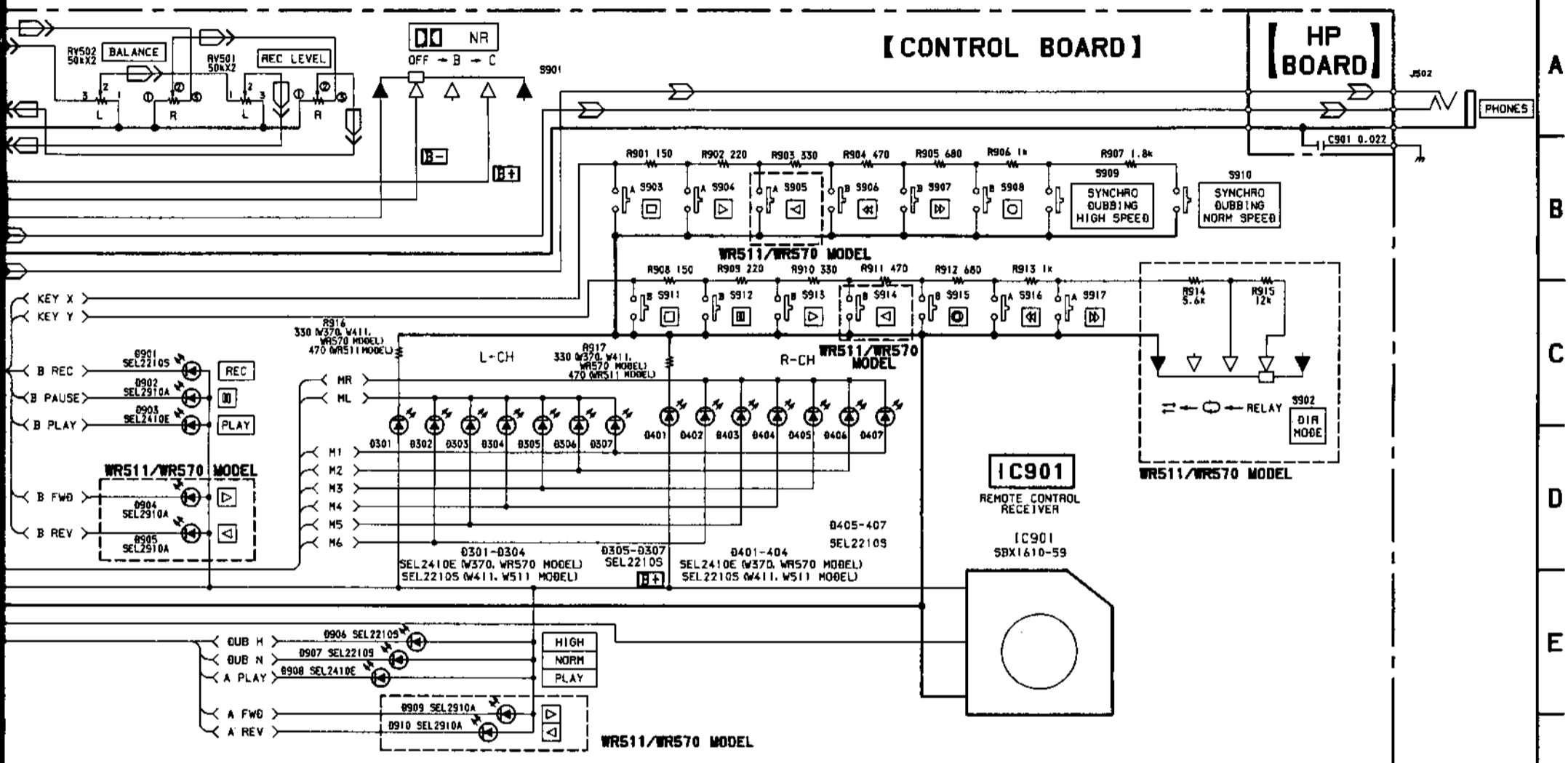
oted, pF:  $\mu$ F  
r electrolytics  
less otherwise

- : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal
- no mark : STOP
  - ▶ : FWD
  - ◀ : REV
  - : REC
- Voltages are taken with a VOM (Input Impedance 10M $\Omega$ )  
Voltage variations may be noted due to normal production tolerances.
- Signal path.
  - : PB (DECK A)
  - : REC (DECK B)

7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18







**Note:**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
- % : indicates tolerance.

**Note:**

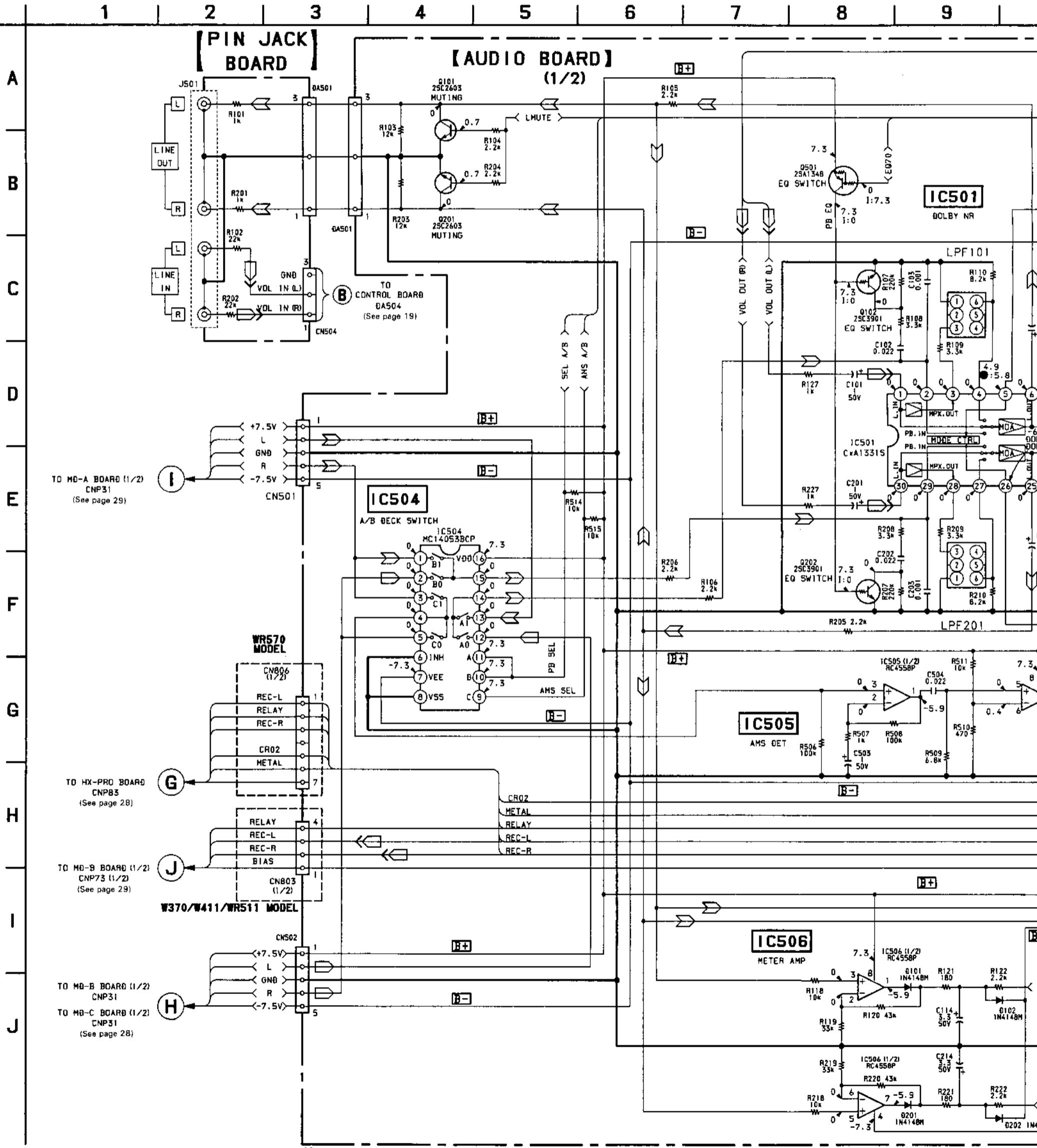
The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

**Note:**

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

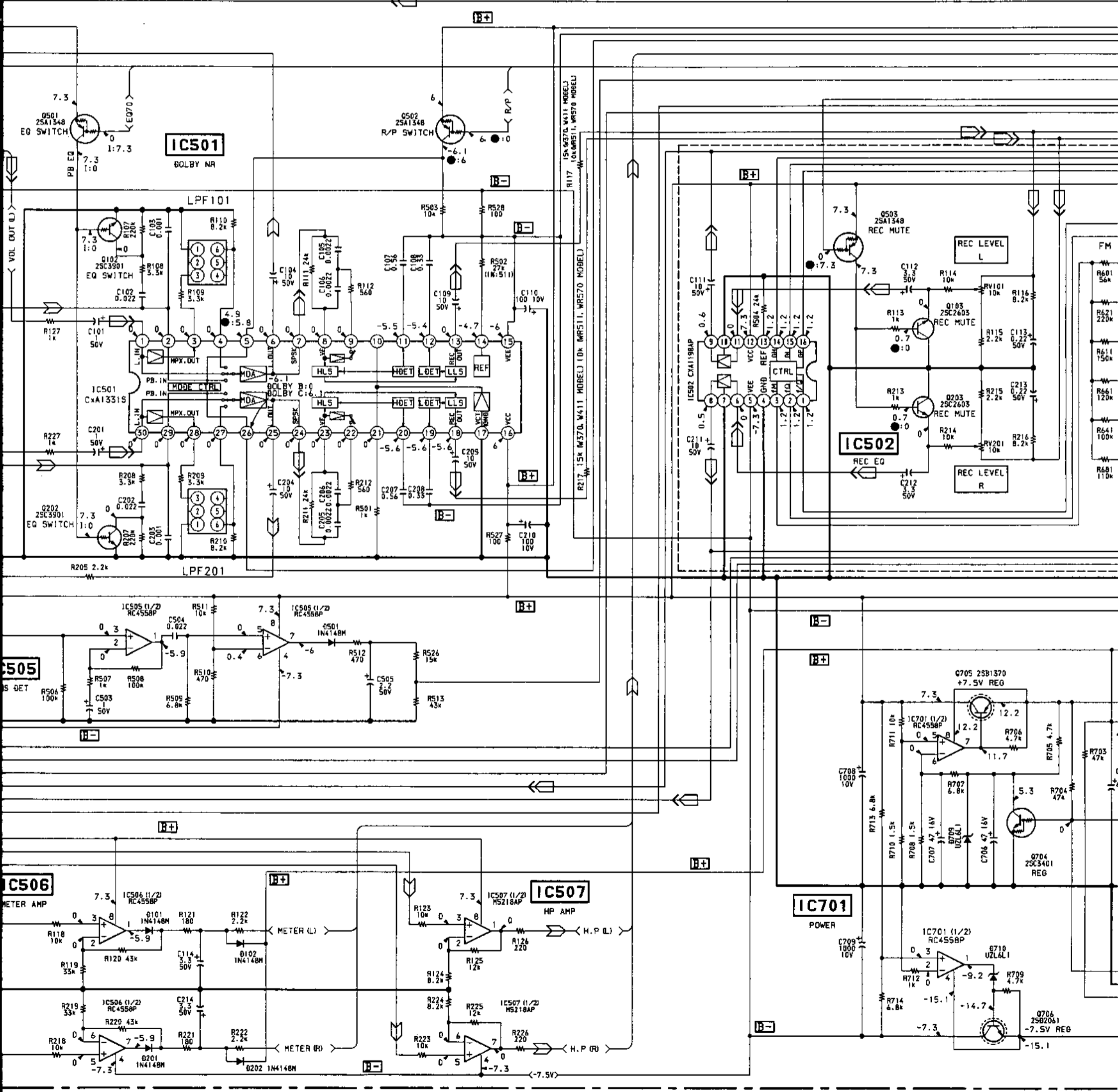
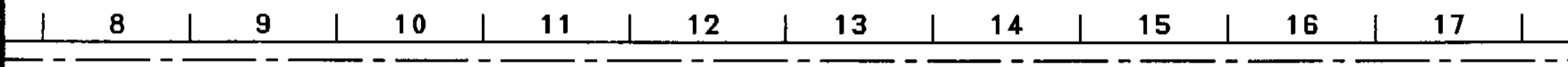
- $\square$  : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal  
no mark: STOP  
• : REC
- Voltages are taken with a VOM (Input Impedance  $10\text{M}\Omega$ )  
Voltage variations may be noted due to normal production tolerances.
- Signal path.  
  - $\triangleright$  : PB (DECK A)
  - $\square$  : PB (DECK B)
  - $\square$  : REC (DECK B)
- CND : Canadian model  
G : Germany model

**4-3. SCHEMATIC DIAGRAM - Audio Section -**

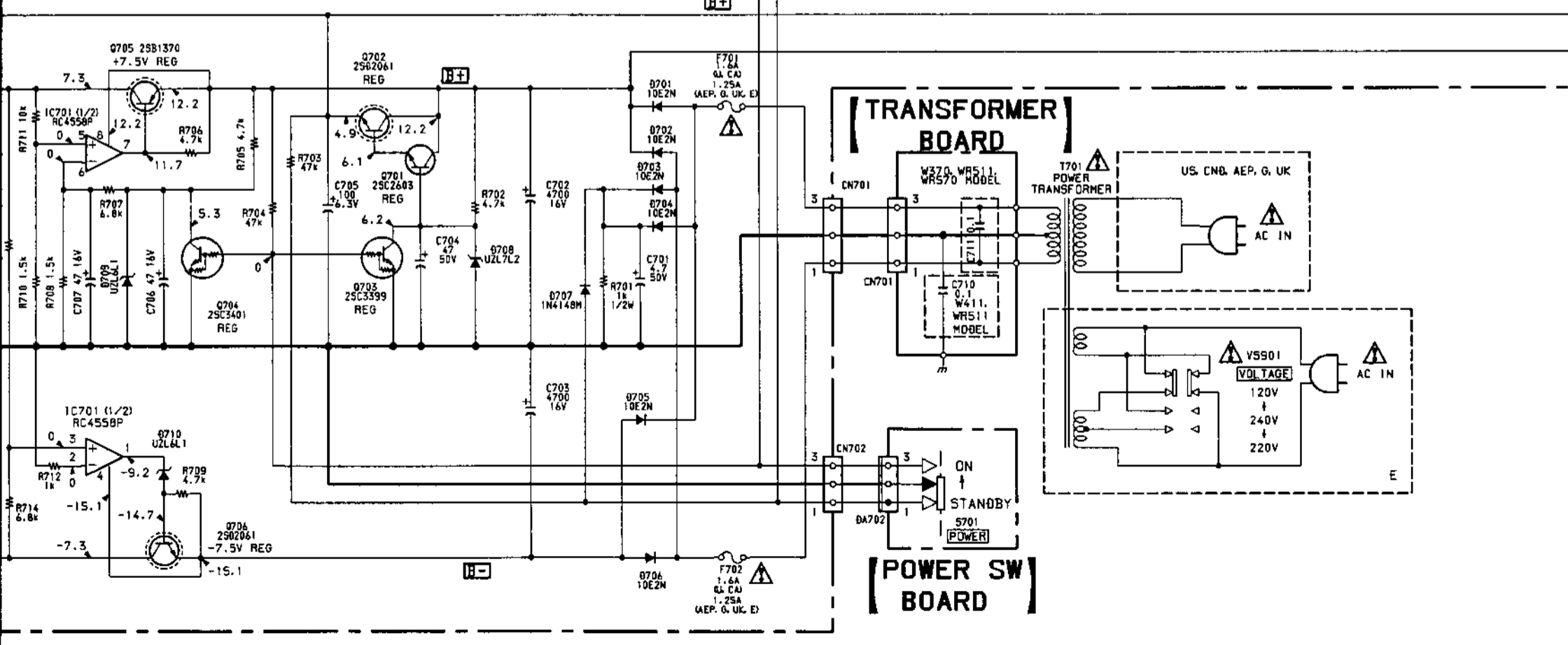
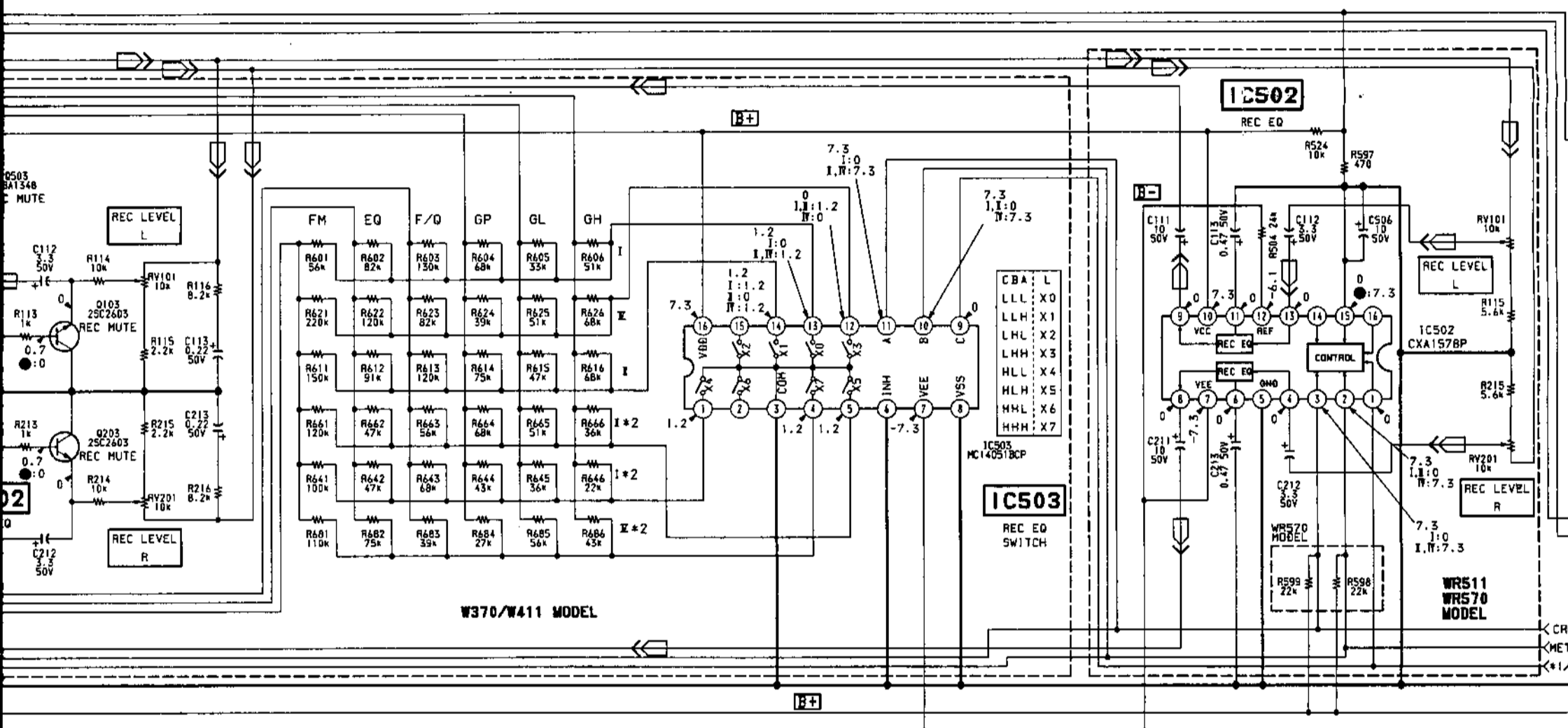


□ : adjustment for repair.  
 Voltage and waveforms are dc with respect to ground under no-signal  
 no mark : STOP  
 ● : REC  
 Voltages are taken with a VOM (Input Impedance 10MΩ)  
 Voltage variations may be noted due to normal production tolerances.  
 Signal path.  
 ▷ : PB (DECK A)  
 ◻ : PB (DECK B)  
 ◁ : REC (DECK B)  
 CND : Canadian model  
 G : Germany model

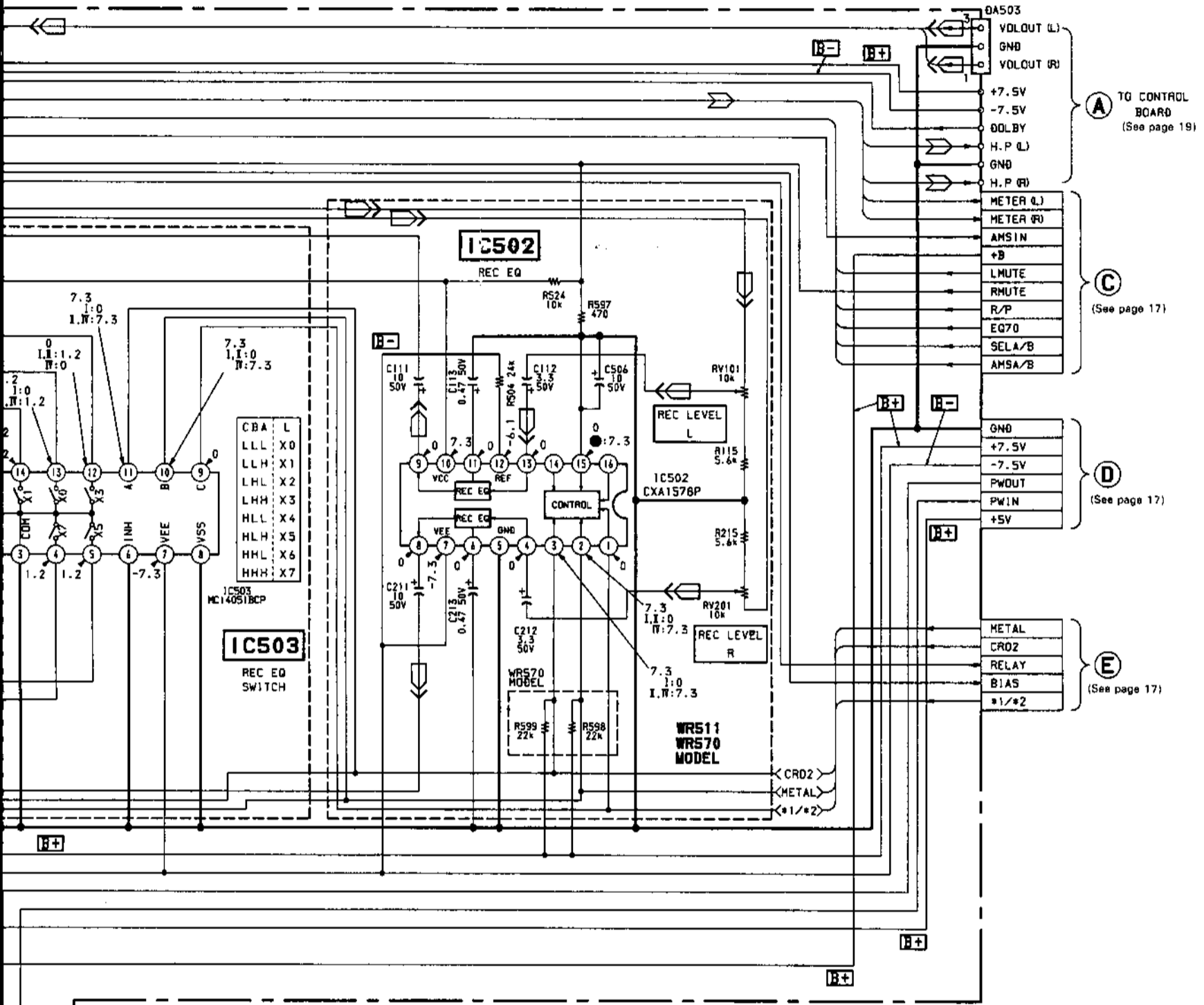
- W370 : TC-W370
- W411 : TC-W411
- WR511 : TC-WR511
- WR570 : TC-WR570







21 | 22 | 23 | 24 | 25 | 26 | 27 | 28



A  
B  
C  
D  
E  
F  
G  
H  
I  
J

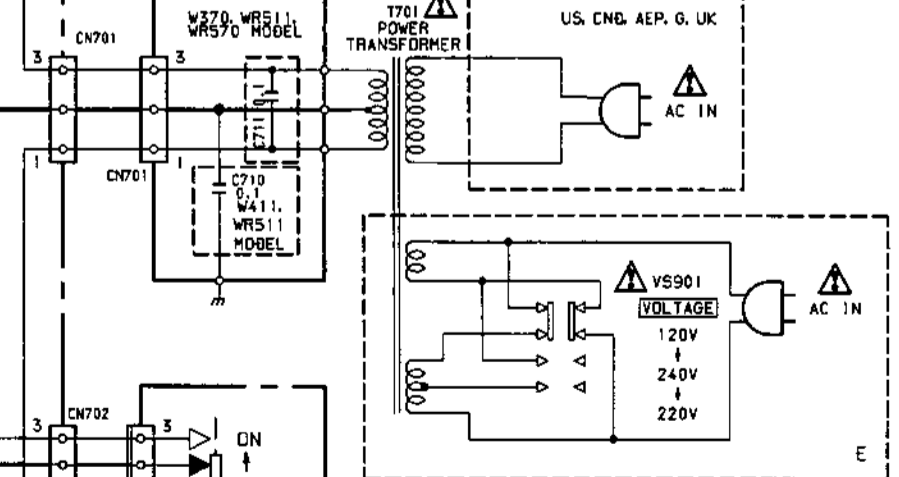
(A) TO CONTROL BOARD (See page 19)

(C) (See page 17)

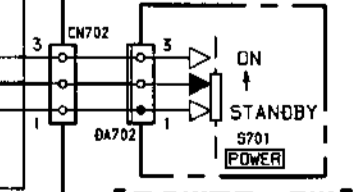
(D) (See page 17)

(E) (See page 17)

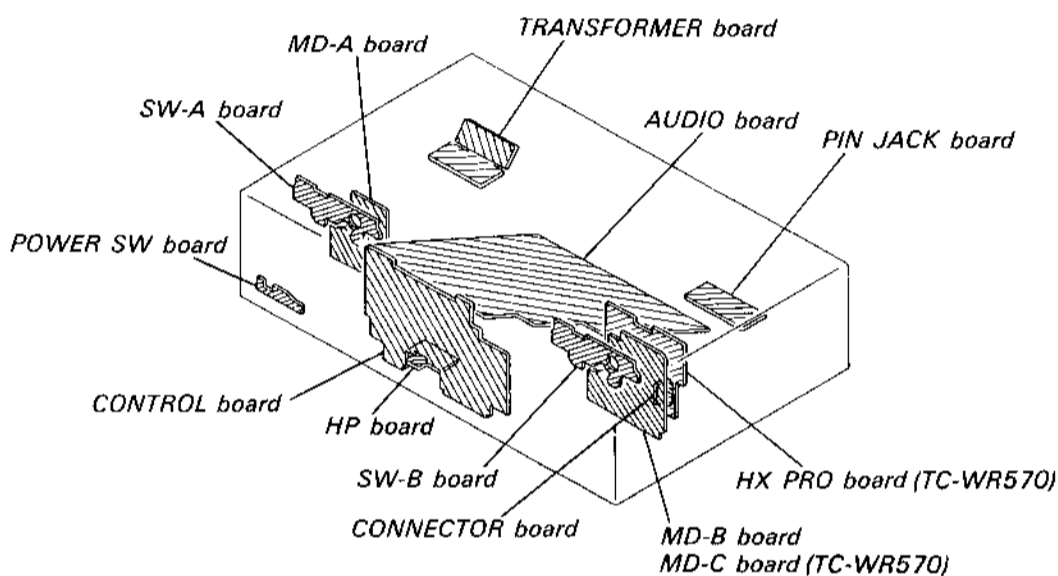
**TRANSFORMER BOARD**



**POWER SW BOARD**

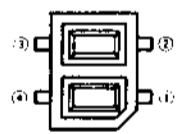


#### 4-4. CIRCUIT BOARDS LOCATION

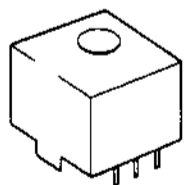


#### 4-5. SEMICONDUCTOR LEAD LAYOUTS

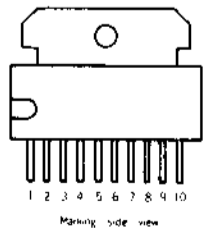
NJL5165K-B



SBX1610-59



TA7272P



2SA1317-S  
2SA1317-STU  
2SC2603-EF  
DTA114ES  
DTA144ES  
DTC114ES  
DTC143TS  
DTC144ES  
DTC144WS



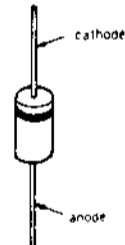
2SB1013-4  
2SC945  
2SD1616A-K  
2SC2001-LK



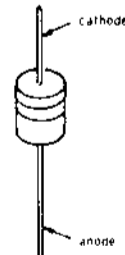
2SB1370-EF  
2SD1312-K



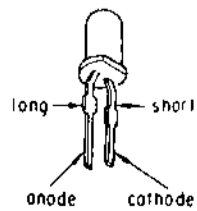
10E2N



1SS120  
1SS202-1  
HZS6A1L  
UZL-11L1  
UZL-7L2



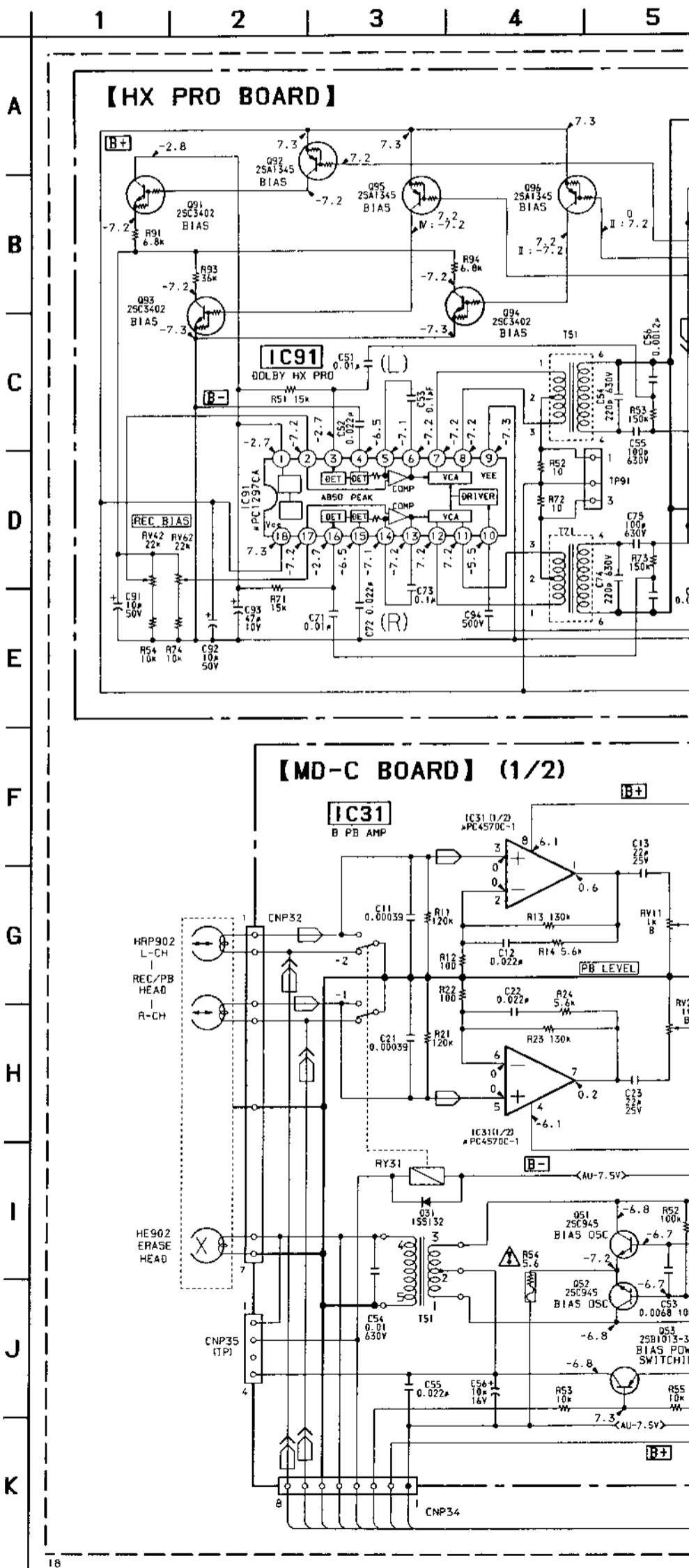
SEL2210S-C  
SEL2410E-D  
SEL2810A-C






Note:  
• All capacitors are 50WV or higher and tantalum type.  
• All resistors are 1% tolerance unless specified.  
• % : in tolerance  
• : film resistor



Note:  
The components identified by a dashed line are critical. Replace only with the same number and specification.





#### 4-6. SCHEMATIC DIAGRAM - MD Section -

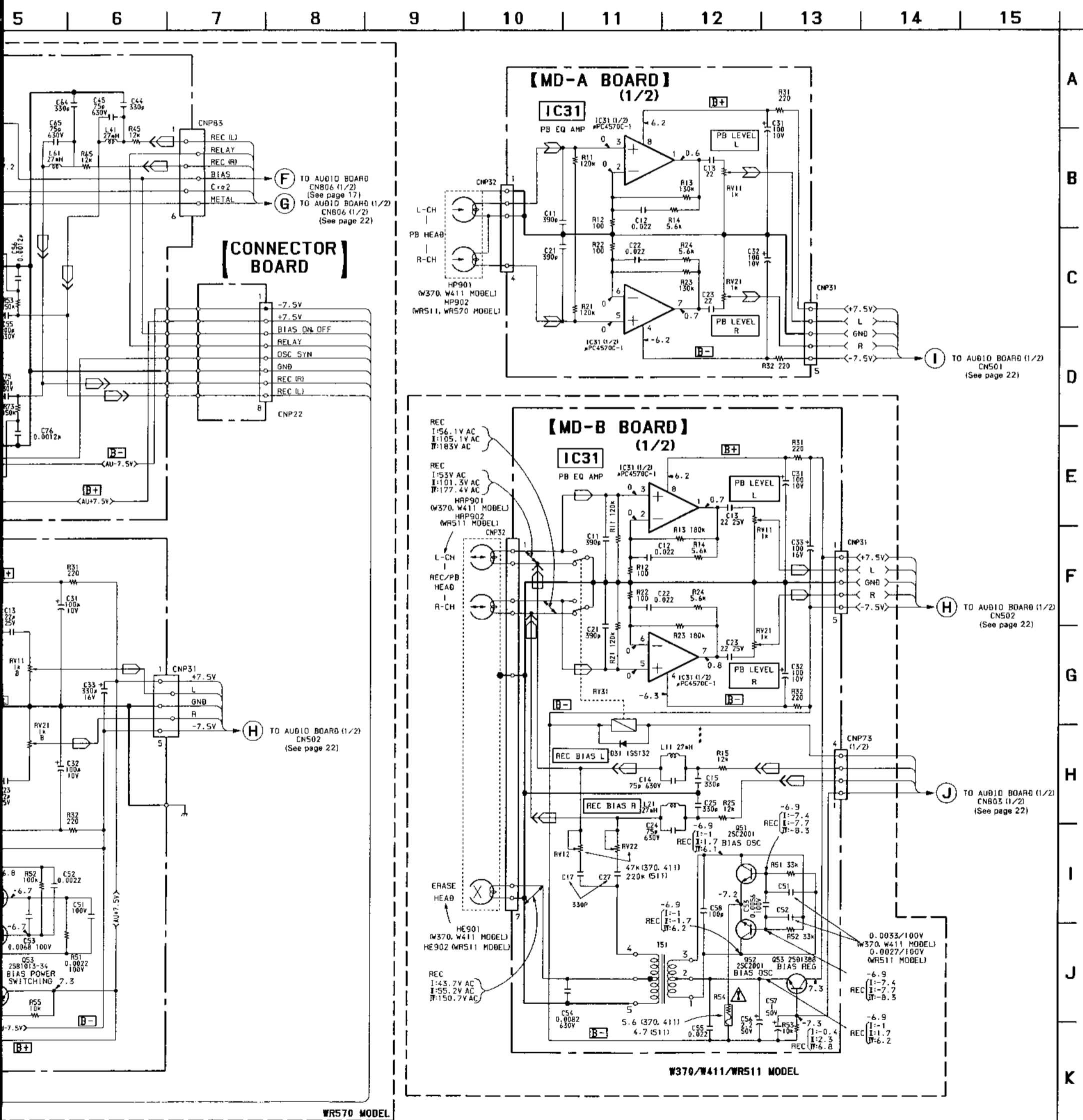


All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{F}$   
 50WV or less are not indicated except for electrolytics  
 and tantalums.  
 All resistors are in  $\Omega$  and  $\frac{1}{4}W$  or less unless otherwise  
 specified.  
 % : indicates tolerance.  
 : fusible resistor.

Note:  
 The components identi-  
 fied by mark  or dot  
 and line with mark  are  
 critical for safety.  
 Replace only with part  
 number specified.

Note:  
 Les composants identi-  
 fiés par une marque  ou  
 une ligne avec une marque  sont  
 critiques pour la sécurité.  
 Ne les remplacer que par une  
 pièce portant le numéro spéci-  
 fié.

-  : adjustment for repair.
- Voltage and waveforms are dc with respect to ground  
 under no-signal  
 no mark: STOP
- Voltages are taken with a VOM (Input Impedance 10M $\Omega$ )  
 Voltage variations may be noted due to normal produc-  
 tion tolerances.
- Signal path.  
 : PB (DECK A)  
 : PB (DECK B)  
 : REC (DECK B)
- W370 : TC-W370  
 W411 : TC-W411  
 WR511 : TC-WR511  
 WR570 : TC-WR570



## SECTION 5 EXPLODED VIEWS

**NOTE:**

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Color Indication of Appearance Parts  
Example:  
KNOB, BALANCE(WHITE)...(RED)  
↑                    ↑  
Part's Color    Cabinet's Color
- Hardware (#mark) list is given in the last of this parts list.
- G : Germany model

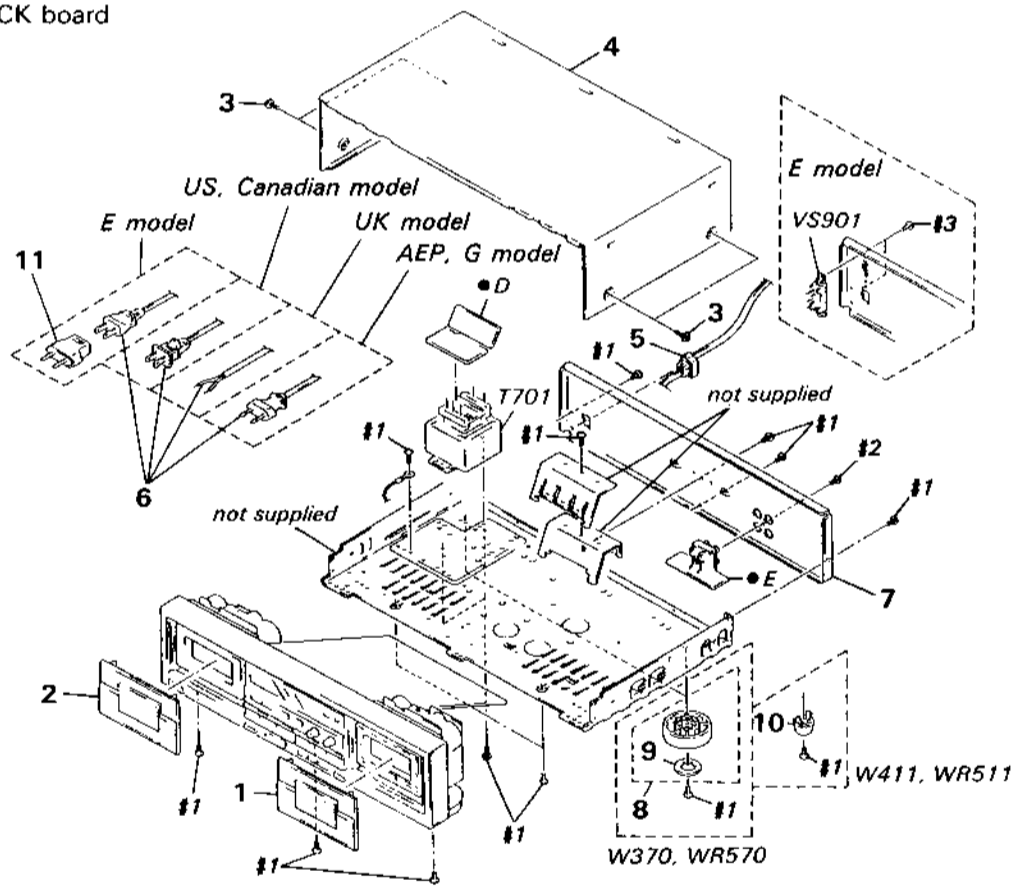
The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

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

- W370 or 370 :TC-W370
- W411 or 411 :TC-W411
- WR511 or 511:TC-WR511
- W570 or 570:TC-WR570

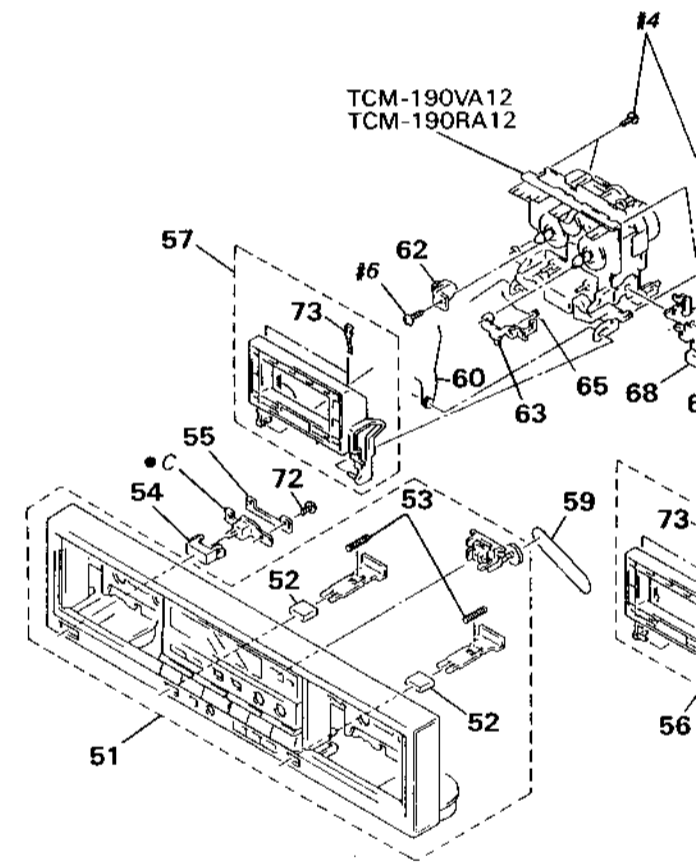
### 5-1. CHASSIS SECTION

- D: TRANSFORMER board
- E: PIN JACK board



### 5-2. FRONT PANEL SECTION

- A: CONTROL board
- B: HP board
- C: POWER SW board
- E: See page 30



Ref. No.	Part No.	Description	Remark
1	X-3362-932-1	LID (B) ASSY, CASSETTE (370, 411)	
1	X-3362-986-1	LID (B) ASSY, CASSETTE (511, 570)	
2	X-3362-985-1	LID (A) ASSY, CASSETTE (511, 570)	
2	X-3362-931-1	LID (A) ASSY, CASSETTE (370, 411)	
3	3-704-366-01	SCREW (CASE) (M3X8)	
4	3-332-578-61	CASE	
5	* 3-703-571-11	BUSHING (S) (4516), CORD (US, Canadian, E)	
5	* 3-703-244-00	BUSHING (2104), CORD (AEP, G, UK)	
6	1-551-506-XX	CORD, POWER (US, Canadian)	
6	1-555-795-00	CORD, POWER, EULO PLUG (AEP, G)	
6	1-556-035-00	CORD, POWER (UK)	
6	1-551-188-XX	CORD, POWER (E)	
7	* 3-365-373-01	PANEL, BACK (570:US, Canadian)	
7	* 3-365-373-21	PANEL, BACK (570:AEP, G)	
7	* 3-365-373-11	PANEL, BACK (570:UK)	
7	* 3-365-373-41	PANEL, BACK (570:E)	
7	* 3-365-373-51	PANEL, BACK (511)	
7	* 3-365-374-01	PANEL, BACK (370:US, Canadian)	
7	* 3-365-374-11	PANEL, BACK (370:UK)	
7	* 3-365-374-21	PANEL, BACK (370:G)	
7	* 3-365-374-31	PANEL, BACK (370:AEP)	
7	* 3-365-374-41	PANEL, BACK (411)	
7	* 3-365-374-51	PANEL, BACK (370:E)	

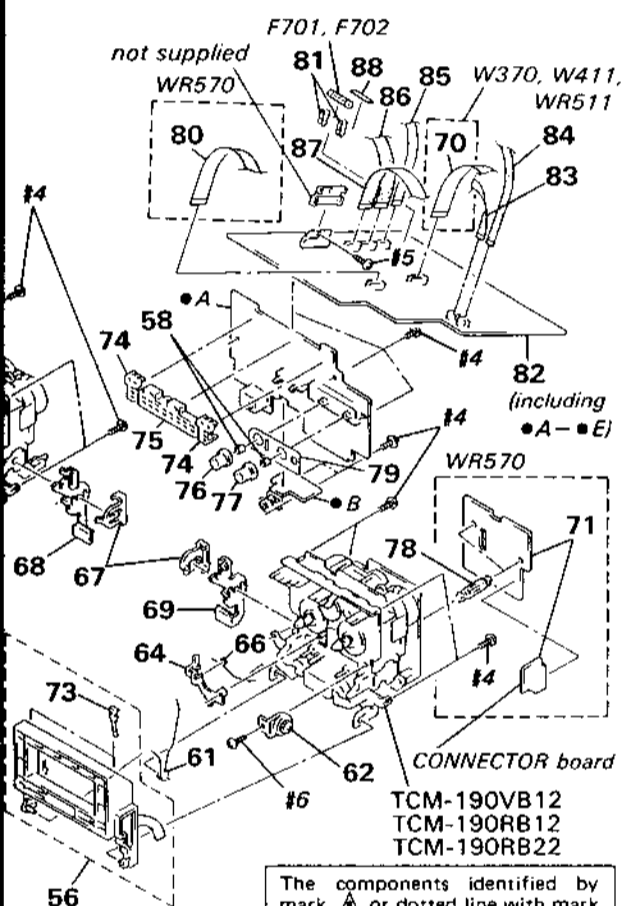
Ref. No.	Part No.	Description	Remark
8	X-4885-950-1	FOOT ASSY (370, 570:US, Canadian)	
8	X-3304-938-2	FOOT ASSY (AEP, G, UK, E)	
9	4-923-836-11	CUSHION (370, 570)	
10	4-930-848-01	FOOT (411, 511)	
11	1-569-007-11	ADAPTER, CONVERSION 2P (E)	
T701	1-450-465-11	TRANSFORMER, POWER (AEP, G, UK, 370:E)	
T701	1-449-666-21	TRANSFORMER, POWER (570:E)	
T701	1-449-420-21	TRANSFORMER, POWER (US, Canadian)	
VS901	1-570-307-11	SWITCH, VOLTAGE CHANGE (E)	

Ref. No.	Part No.	Description	Remark	Ref. No.
51	X-3362-987-1	PANEL ASSY, FRONT (570:US, Canadian)		72
51	X-3362-933-1	PANEL ASSY, FRONT (370:US, Canadian)		73
51	X-3362-929-1	PANEL ASSY, FRONT (411)		74
51	X-3362-930-1	PANEL ASSY, FRONT (370:AEP, G, UK, E)		75
51	X-3362-983-1	PANEL ASSY, FRONT (511)		76
51	X-3362-984-1	PANEL ASSY, FRONT (570:AEP, G, UK, E)		77
52	3-359-907-11	BUTTON (EJECT)		78
53	3-359-906-01	SPRING, COMPRESSION		79
54	3-354-932-01	BUTTON (POWER)		80
55	* 3-359-910-01	REINFORCEMENT		81
56	X-3340-194-1	HOLDER (L) ASSY, CASSETTE		82
57	X-3340-195-1	HOLDER (R) ASSY, CASSETTE		82
58	3-356-957-01	SPRING		82
59	3-305-524-00	BELT		82
60	3-354-960-01	SPRING (LOADING R), TORSION		83
61	3-354-959-01	SPRING (LOADING L), TORSION		84
62	3-354-963-01	DAMPER		85
63	3-354-956-01	LEVER (EJ SAFTY LEVER R)		86
64	3-354-955-01	LEVER (EJ SAFTY LEVER L)		87
65	3-354-962-01	SPRING (EJ SAFTY SPRING R)		88
66	3-354-961-01	SPRING (EJ SAFTY SPRING L)		
67	3-354-957-01	JOINT (LOCK LEVER)		F701
68	* 3-354-954-01	LEVER (LOCK LEVER R)		F701
69	* 3-354-953-01	LEVER (LOCK LEVER L)		F702
70	1-575-784-11	WIRE, FLAT TYPE (13 CORE) (370, 411, 511)		F702
71	* A-2006-403-A	HX PRO BOARD, COMPLETE (570)		

MC-Service

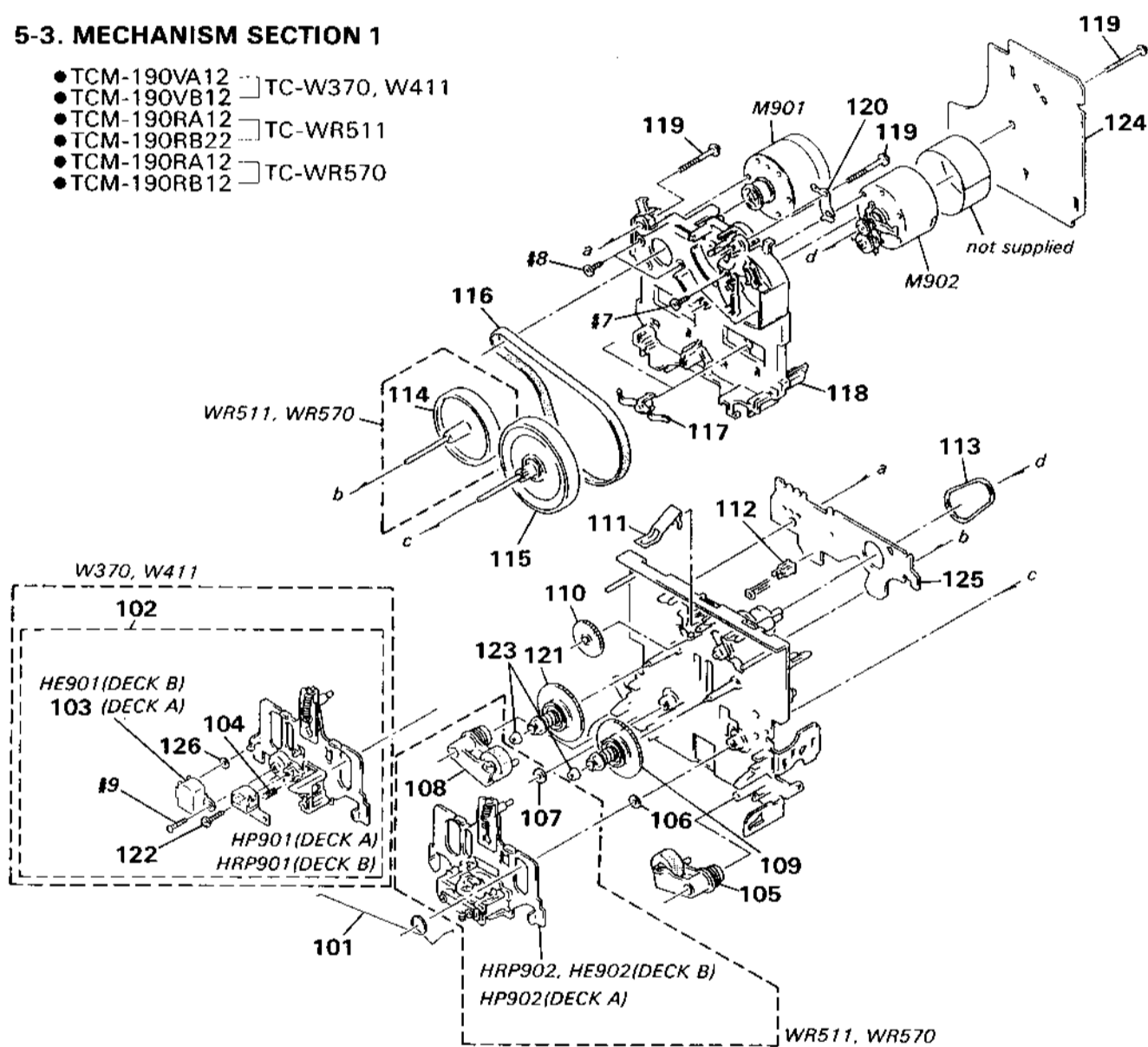
### 5-3. MECHANISM SECTION 1

- TCM-190VA12 □ TC-W370, W411
- TCM-190VB12 □ TC-WR511
- TCM-190RA12 □ TC-WR511
- TCM-190RB22 □ TC-WR511
- TCM-190RA12 □ TC-WR570
- TCM-190RB12 □ TC-WR570



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

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

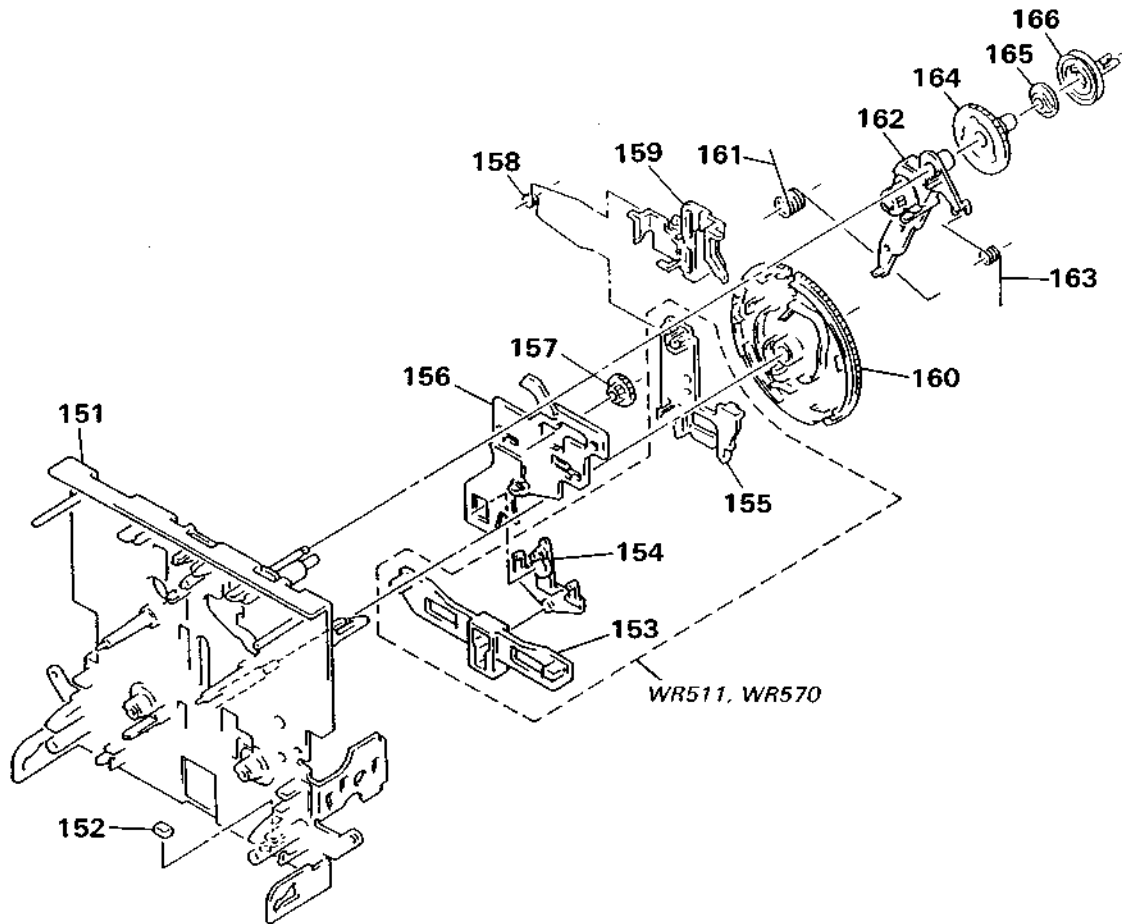


Ref. No.	Part No.	Description	Remark
72	4-928-635-21	SCREW, +BV (2.5X10) TAPPING	
73	3-308-823-11	SPRING	
74	* 3-354-966-01	HOLDER (DIR), LED	
75	* 3-354-972-01	HOLDER (METER), LED	
76	3-367-431-01	KNOB (BAL)	
77	3-367-431-11	KNOB (REC)	
78	* 3-682-419-21	HOLDER, P.C.B (570)	
79	* 3-359-940-01	PLATE, SHIELD	
80	1-575-851-21	WIRE, FLAT TYPE (7 CORE) (570)	
81	* 1-533-213-31	HOLDER, FUSE	
82	* A-2006-402-A	AUDIO BOARD, COMPLETE (570)	
82	* A-2006-418-A	AUDIO BOARD, COMPLETE (370)	
82	* A-2006-419-A	AUDIO BOARD, COMPLETE (411)	
82	* A-2006-529-A	AUDIO BOARD, COMPLETE (511)	
83	* 1-575-847-11	WIRE, FLAT TYPE (5 CORE)	
84	1-575-779-11	WIRE, FLAT TYPE (5 CORE)	
85	1-575-968-11	WIRE, FLAT TYPE (7 CORE)	
86	1-575-781-11	WIRE, FLAT TYPE (9 CORE)	
87	1-575-782-11	WIRE, FLAT TYPE (9 CORE)	
88	3-701-947-12	LABEL (T1.25A) FUSE (AEP, G, UK, E)	
F701	△ 1-532-285-00	FUSE, TIME-LAG 1.25A (AEP, G, UK, E)	
F701	△ 1-532-742-11	FUSE, GLASS TUBE 1.6A (US, Canadian)	
F702	△ 1-532-285-00	FUSE, TIME-LAG 1.25A (AEP, G, UK, E)	
F702	△ 1-532-742-11	FUSE, GLASS TUBE 1.6A (US, Canadian)	

Ref. No.	Part No.	Description	Remark
101	3-359-455-01	SPRING, TORSION	
102	A-2003-475-A	BASE (ONE) ASSY, HEAD (370, 411 DECK A)	
102	A-2003-476-A	BASE (ONE) ASSY, HEAD (370, 411 DECK B)	
103	3-319-716-01	GUID, TAPE (370, 411 DECK A)	
104	3-343-484-01	SPRING, COMPRESSION (370, 411)	
105	X-3359-408-1	LEVER (PINCH LEVER FWD) ASSY	
106	3-356-713-01	WASHER	
107	3-356-714-01	WASHER (511, 570)	
108	X-3359-409-1	LEVER (PINCH LEVER REV) ASSY (511, 570)	
109	X-3359-404-1	TABLE ASSY, REEL	
110	3-359-424-01	GEAR (REV GEAR)	
111	3-359-430-01	SPRING (CASSETTE RETAINER), LEAF	
112	3-343-419-01	HOLDER (S SENSER A)	
113	3-359-466-01	BELT (FR), SQUARE	
114	X-3359-410-1	FLYWHEEL (REV) ASSY (511, 570)	
115	X-3359-406-1	FLYWHEEL (FWD) COMPLETE ASSY	
116	3-359-417-01	BELT (FLAT), CAPSTAN (511, 570)	
116	3-359-467-01	BELT (1 WAY FLAT BELT) (370, 411)	
117	3-575-321-00	RETAINER, THRUST, CAPSTAN	
118	* 3-359-436-01	BASE (THRUST RETAINER), FITTING	
119	3-359-414-01	SCREW (+PTPMK 2X23)	

Ref. No.	Part No.	Description	Remark
120	3-359-450-01	PLATE, GROUND	
121	X-3362-078-1	TABLE ASSY (B), REEL	
122	3-359-446-01	SCREW (AZIMUTH ADJUSTMENT) (370, 411)	
123	3-362-308-01	CAP (REEL)	
124	* 1-634-840-11	MD-A BOARD (DECK A)	
124	* 1-634-842-11	MD-C BOARD (570 DECK A)	
124	* 1-634-843-11	MD-B BOARD (370, 411, 511 DECK B)	
125	* 1-634-841-11	SW-A BOARD	
125	* 1-634-841-11	SW-B BOARD	
126	3-359-364-01	WASHER (TAPE GUIDE) (370, 411 DECK A)	
HE901	1-543-535-11	HEAD, MAGNETIC (ERASE) (370, 411 DECK B)	
HP901	1-543-536-11	HEAD, MAGNETIC (PLAYBACK) (370, 411 DECK A)	
HP902	A-2003-418-A	BASE ASSY, HEAD (PLAYBACK) (511, 570 DECK A)	
HRP901	1-543-537-11	HEAD, MAGNETIC (REC/PB) (370, 411 DECK B)	
HRP902	A-2003-477-A	BASE ASSY, HEAD (REC/PB/ERASE) (511, 570 DECK B)	
M901	X-3359-417-1	MOTOR (CAPSTAN) ASSY	
M902	A-2003-474-A	MOTOR (REEL) ASSY	

5-4. MECHANISM SECTION 2



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	X-3359-415-1	CHASSIS ASSY, MECHANICAL (511, 570)		158	3-359-454-01	SPRING, TORSION	
151	X-3359-416-1	CHASSIS ASSY, MECHANICAL (370, 411)		159	3-359-429-01	SLIDER (BRAKE PLATE)	
152	3-359-469-01	SPACER		160	3-359-420-01	GEAR (CAM GEAR)	
153	* 3-359-425-01	SLIDER (REVERSE SLIDER) (511, 570)		161	3-359-456-01	SPRING (TRIGGER SPRING), TORSION	
154	3-359-426-01	LEVER (REVERSE LEVER) (511, 570)		162	X-3359-405-1	LEVER (FR ARM) ASSY	
155	* 3-359-427-01	SLIDER (LEVERSE SLIDER) (511, 570)		163	3-359-453-01	SPRING (FR ARM), TORSION	
156	* 3-359-415-01	SLIDER (TRIGGER SLIDER)		164	3-359-419-01	GEAR (FR GEAR)	
157	3-359-448-01	GEAR (TRIGGER)		165	3-359-421-01	CLUTCH (REEL DISK)	
				166	3-359-418-01	PULLEY (FR PULLEY)	



SECTION 6  
ELECTRICAL PARTS LIST


AUDIO

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- 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...: μA..., uPA...: μPA...,  
uPB...: μPB..., uPC...: μPC...,  
uPD...: μPD...
- CAPACITORS  
uF: μF
- COILS  
uH: μH
- G: Germany model
- 370:TC-W370  
411:TC-W411  
R511:TC-WR511  
R570:TC-WR570

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

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

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-2006-402-A	AUDIO BOARD, COMPLETE (570)		C205	1-130-475-00	MYLAR	0.0022uF 5% 50V
*	A-2006-418-A	AUDIO BOARD, COMPLETE (370)		C206	1-130-475-00	MYLAR	0.0022uF 5% 50V
*	A-2006-419-A	AUDIO BOARD, COMPLETE (411)		C207	1-136-174-00	FILM	0.56uF 5% 50V
*	A-2006-529-A	AUDIO BOARD, COMPLETE (511)		C208	1-136-171-00	FILM	0.33uF 5% 50V
*****							
*	1-533-213-31	HOLDER, FUSE		C209	1-126-059-11	ELECT	10uF 20% 50V
*	3-354-966-01	HOLDER (DIR), LED		C210	1-124-994-11	ELECT	100uF 20% 10V
*	3-354-972-01	HOLDER (METER), LED		C211	1-126-059-11	ELECT	10uF 20% 50V
*	3-359-940-01	PLATE, SHIELD		C212	1-126-162-11	ELECT	3.3uF 20% 50V
	7-682-547-04	SCREW +BVT 3X6 (S)		C213	1-124-464-11	ELECT	0.22uF 20% 50V (370, 411)
				C213	1-126-300-11	ELECT	0.47uF 20% 50V (511, 570)
< CAPACITOR >							
C101	1-126-301-11	ELECT	1uF 20% 50V	C214	1-126-162-11	ELECT	3.3uF 20% 50V
C102	1-136-157-00	FILM	0.022uF 5% 50V	C502	1-124-997-11	ELECT	470uF 20% 10V
C103	1-162-294-31	CERAMIC	0.001uF 10% 50V	C503	1-126-301-11	ELECT	1uF 20% 50V
C104	1-126-059-11	ELECT	10uF 20% 50V	C504	1-161-494-00	CERAMIC	0.022uF 25V
C105	1-130-475-00	MYLAR	0.0022uF 5% 50V	C505	1-126-161-11	ELECT	2.2uF 20% 50V
C106	1-130-475-00	MYLAR	0.0022uF 5% 50V	C506	1-126-059-11	ELECT	10uF 20% 50V (511, 570)
C107	1-136-174-00	FILM	0.56uF 5% 50V	C701	1-126-163-11	ELECT	4.7uF 20% 50V
C108	1-136-171-00	FILM	0.33uF 5% 50V	C702	1-126-937-11	ELECT	4700uF 20% 16V
C109	1-126-059-11	ELECT	10uF 20% 50V	C703	1-126-937-11	ELECT	4700uF 20% 16V
C110	1-124-994-11	ELECT	100uF 20% 10V	C704	1-124-910-11	ELECT	47uF 20% 50V
C111	1-126-059-11	ELECT	10uF 20% 50V	C705	1-124-443-00	ELECT	100uF 20% 10V
C112	1-126-162-11	ELECT	3.3uF 20% 50V	C706	1-126-022-11	ELECT	47uF 20% 16V
C113	1-124-464-11	ELECT	0.22uF 20% 50V (370, 411)	C707	1-126-022-11	ELECT	47uF 20% 16V
C113	1-126-300-11	ELECT	0.47uF 20% 50V (511, 570)	C708	1-124-473-11	ELECT	1000uF 20% 10V
C114	1-126-162-11	ELECT	3.3uF 20% 50V	C709	1-124-473-11	ELECT	1000uF 20% 10V
C201	1-126-301-11	ELECT	1uF 20% 50V	C710	1-164-159-11	CERAMIC	0.1uF 50V (411, 511)
C202	1-136-157-00	FILM	0.022uF 5% 50V	C711	1-164-159-11	CERAMIC	0.1uF 50V (370, 511, 570)
C203	1-162-294-31	CERAMIC	0.001uF 10% 50V	C801	1-124-443-00	ELECT	100uF 20% 10V
C204	1-126-059-11	ELECT	10uF 20% 50V	C802	1-126-059-11	ELECT	10uF 20% 50V
				C803	1-126-301-11	ELECT	1uF 20% 50V



AUDIO

Ref. No.	Part No.	Description	Remark
C804	1-136-165-00	FILM 0.1uF 5% 50V	
C805	1-136-165-00	FILM 0.1uF 5% 50V	
C807	1-126-300-11	ELECT 0.47uF 20% 50V	
C808	1-161-494-00	CERAMIC 0.022uF 25V	
C901	1-161-494-00	CERAMIC 0.022uF 25V	
< CONNECTOR >			
CN501	* 1-568-824-11	SOCKET, CONNECTOR 5P	
CN502	* 1-568-824-11	SOCKET, CONNECTOR 5P	
CN504	* 1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P	
CN701	* 1-564-506-11	PLUG, CONNECTOR 3P	
CN702	* 1-564-337-00	PIN, CONNECTOR 3P	
CN801	* 1-568-828-11	SOCKET, CONNECTOR 9P	
CN802	* 1-568-828-11	SOCKET, CONNECTOR 9P	
CN803	* 1-568-828-11	SOCKET, CONNECTOR 9P (570)	
CN803	* 1-568-832-11	SOCKET, CONNECTOR 13P (370, 411, 511)	
CN804	* 1-568-826-11	SOCKET, CONNECTOR 7P	
CN805	* 1-564-505-11	PLUG, CONNECTOR 2P	
CN806	* 1-568-826-11	SOCKET, CONNECTOR 7P (570)	
< DIODE >			
D101	8-719-912-20	DIODE 1SS120	
D102	8-719-912-20	DIODE 1SS120	
D201	8-719-912-20	DIODE 1SS120	
D202	8-719-912-20	DIODE 1SS120	
D301	8-719-301-38	LED SEL2210S-C (411, 511)	
D301	8-719-301-44	LED SEL2410E-D (370, 570)	
D302	8-719-301-38	LED SEL2210S-C (411, 511)	
D302	8-719-301-44	LED SEL2410E-D (370, 570)	
D303	8-719-301-38	LED SEL2210S-C (411, 511)	
D303	8-719-301-44	LED SEL2410E-D (370, 570)	
D304	8-719-301-38	LED SEL2210S-C (411, 511)	
D304	8-719-301-44	LED SEL2410E-D (370, 570)	
D305	8-719-301-38	LED SEL2210S-C	
D306	8-719-301-38	LED SEL2210S-C	
D307	8-719-301-38	LED SEL2210S-C	
D401	8-719-301-38	LED SEL2210S-C (411, 511)	
D401	8-719-301-44	LED SEL2410E-D (370, 570)	
D402	8-719-301-38	LED SEL2210S-C (411, 511)	
D402	8-719-301-44	LED SEL2410E-D (370, 570)	
D403	8-719-301-38	LED SEL2210S-C (411, 511)	
D403	8-719-301-44	LED SEL2410E-D (370, 570)	
D404	8-719-301-38	LED SEL2210S-C (411, 511)	
D404	8-719-301-44	LED SEL2410E-D (370, 570)	

Ref. No.	Part No.	Description	Remark
D405	8-719-301-38	LED SEL2210S-C	
D406	8-719-301-38	LED SEL2210S-C	
D407	8-719-301-38	LED SEL2210S-C	
D501	8-719-912-20	DIODE 1SS120	
D502	8-719-200-77	DIODE 10E2N	
D503	8-719-001-33	DIODE UZL-11L1	
D701	8-719-200-77	DIODE 10E2N	
D702	8-719-200-77	DIODE 10E2N	
D703	8-719-200-77	DIODE 10E2N	
D704	8-719-200-77	DIODE 10E2N	
D705	8-719-200-77	DIODE 10E2N	
D706	8-719-200-77	DIODE 10E2N	
D707	8-719-912-20	DIODE 1SS120	
D708	8-719-000-78	DIODE HZS6A1L	
D709	8-719-933-33	DIODE HZS6A1L	
D710	8-719-933-33	DIODE HZS6A1L	
D801	8-719-912-20	DIODE 1SS120	
D802	8-719-912-20	DIODE 1SS120	
D901	8-719-301-38	LED SEL2210S-C(B REC)	
D902	8-719-301-52	LED SEL2810A-C(B PAUSE)	
D903	8-719-301-44	LED SEL2410E-D(B PLAY)	
D904	8-719-301-52	LED SEL2810A-C(B FWD)	
D905	8-719-301-52	LED SEL2810A-C(B REV)	
D906	8-719-301-38	LED SEL2210S-C(DUB H)	
D907	8-719-301-38	LED SEL2210S-C(DUB N)	
D908	8-719-301-44	LED SEL2410E-D(A PLAY)	
D909	8-719-301-52	LED SEL2810A-C(511, 570)(A FWD)	
D910	8-719-301-52	LED SEL2810A-C(511, 570)(A REV)	
< IC >			
IC501	8-752-035-94	IC CXA1331S	
IC502	8-752-038-02	IC CXA1198AP (370, 411)	
IC502	8-752-055-61	IC CXA1578P (511, 570)	
IC503	8-759-208-06	IC TC4051BPHB (370, 411)	
IC504	8-759-140-53	IC uPD4053BC	
IC505	8-759-945-58	IC RC4558P	
IC506	8-759-945-58	IC RC4558P	
IC507	8-759-634-51	IC M5218AP	
IC701	8-759-945-58	IC RC4558P	
IC801	8-759-636-80	IC M50964-229SP	
IC802	8-759-207-05	IC TA7272P	
IC901	8-741-100-48	IC SBX1610-59	
< JACK >			
J501	1-565-258-11	JACK, PIN 4P (LINE IN/OUT)	
J502	1-507-796-71	JACK (PHONES)	

**AUDIO**

Ref. No.	Part No.	Description	Remark
< FILTER >			
LPF101	1-236-087-11	FILTER, LOW PASS	
LPF201	1-236-087-11	FILTER, LOW PASS	
< TRANSISTOR >			
Q101	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q102	8-729-900-74	TRANSISTOR DTC143TS	
Q103	8-729-620-05	TRANSISTOR 2SC2603-EF (370, 411)	
Q201	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q202	8-729-900-74	TRANSISTOR DTC143TS	
Q203	8-729-620-05	TRANSISTOR 2SC2603-EF (370, 411)	
Q501	8-729-900-61	TRANSISTOR DTA114ES	
Q502	8-729-900-61	TRANSISTOR DTA114ES	
Q503	8-729-900-61	TRANSISTOR DTA114ES (370, 411)	
Q505	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q506	8-729-900-61	TRANSISTOR DTA114ES	
Q507	8-729-900-61	TRANSISTOR DTA114ES (370, 411, 511)	
Q508	8-729-821-04	TRANSISTOR 2SA1317-STU (370, 411, 511)	
Q509	8-729-900-61	TRANSISTOR DTA114ES (370, 411, 511)	
Q510	8-729-821-04	TRANSISTOR 2SA1317-STU (370, 411, 511)	
Q511	8-729-821-04	TRANSISTOR 2SA1317-STU (370, 411, 511)	
Q701	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q702	8-729-111-55	TRANSISTOR 2SD1312-K	
Q703	8-729-900-89	TRANSISTOR DTC144ES	
Q704	8-729-900-85	TRANSISTOR DTC144WS	
Q705	8-729-924-90	TRANSISTOR 2SB1370-EF	
Q706	8-729-111-55	TRANSISTOR 2SD1312-K	
Q801	8-729-900-80	TRANSISTOR DTC114ES	
Q802	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q803	8-729-900-61	TRANSISTOR DTA114ES	
Q804	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q805	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q806	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q807	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q808	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q809	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q810	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q811	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q812	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q813	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q814	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q815	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q816	8-729-900-61	TRANSISTOR DTA114ES	
Q817	8-729-801-84	TRANSISTOR 2SB1013-4	
Q818	8-729-900-89	TRANSISTOR DTC144ES	
Q819	8-729-801-84	TRANSISTOR 2SB1013-4	
Q820	8-729-900-61	TRANSISTOR DTA114ES	

Ref. No.	Part No.	Description	Remark
< RESISTOR >			
R101	1-249-417-11	CARBON 1K	5% 1/4W
R102	1-249-433-11	CARBON 22K	5% 1/4W
R103	1-249-430-11	CARBON 12K	5% 1/4W
R104	1-249-421-11	CARBON 2.2K	5% 1/4W
R105	1-249-421-11	CARBON 2.2K	5% 1/4W
R106	1-249-421-11	CARBON 2.2K	5% 1/4W
R107	1-247-887-00	CARBON 220K	5% 1/4W
R108	1-249-423-11	CARBON 3.3K	5% 1/4W
R109	1-249-423-11	CARBON 3.3K	5% 1/4W
R110	1-249-428-11	CARBON 8.2K	5% 1/4W
R111	1-247-864-11	CARBON 24K	5% 1/4W
R112	1-249-414-11	CARBON 560	5% 1/4W
R113	1-249-417-11	CARBON 1K	5% 1/4W (370, 411)
R114	1-249-429-11	CARBON 10K	5% 1/4W (370, 411)
R115	1-249-421-11	CARBON 2.2K	5% 1/4W (370, 411)
R115	1-249-426-11	CARBON 5.6K	5% 1/4W (511, 570)
R116	1-249-428-11	CARBON 8.2K	5% 1/4W (370, 411)
R117	1-249-431-11	CARBON 15K	5% 1/4W (370, 411)
R117	1-249-429-11	CARBON 10K	5% 1/4W (511, 570)
R118	1-249-429-11	CARBON 10K	5% 1/4W
R119	1-249-435-11	CARBON 33K	5% 1/4W
R120	1-247-870-11	CARBON 43K	5% 1/4W
R121	1-249-408-11	CARBON 180	5% 1/4W
R122	1-249-421-11	CARBON 2.2K	5% 1/4W
R123	1-249-429-11	CARBON 10K	5% 1/4W
R124	1-249-428-11	CARBON 8.2K	5% 1/4W
R125	1-249-430-11	CARBON 12K	5% 1/4W
R126	1-249-409-11	CARBON 220	5% 1/4W
R127	1-249-417-11	CARBON 1K	5% 1/4W
R201	1-249-417-11	CARBON 1K	5% 1/4W
R202	1-249-433-11	CARBON 22K	5% 1/4W
R203	1-249-430-11	CARBON 12K	5% 1/4W
R204	1-249-421-11	CARBON 2.2K	5% 1/4W
R205	1-249-421-11	CARBON 2.2K	5% 1/4W
R206	1-249-421-11	CARBON 2.2K	5% 1/4W
R207	1-247-887-00	CARBON 220K	5% 1/4W
R208	1-249-423-11	CARBON 3.3K	5% 1/4W
R209	1-249-423-11	CARBON 3.3K	5% 1/4W
R210	1-249-428-11	CARBON 8.2K	5% 1/4W
R211	1-247-864-11	CARBON 24K	5% 1/4W
R212	1-249-414-11	CARBON 560	5% 1/4W
R213	1-249-417-11	CARBON 1K	5% 1/4W (370, 411)
R214	1-249-429-11	CARBON 10K	5% 1/4W (370, 411)
R215	1-249-421-11	CARBON 2.2K	5% 1/4W (370, 411)
R215	1-249-426-11	CARBON 5.6K	5% 1/4W (511, 570)

AUDIO

Ref. No.	Part No.	Description	Remark
R216	1-249-428-11	CARBON	8. 2K 5% 1/4W (370, 411)
R217	1-249-429-11	CARBON	10K 5% 1/4W (511, 570)
R217	1-249-431-11	CARBON	15K 5% 1/4W (370, 411)
R218	1-249-429-11	CARBON	10K 5% 1/4W
R219	1-249-435-11	CARBON	33K 5% 1/4W
R220	1-247-870-11	CARBON	43K 5% 1/4W
R221	1-249-408-11	CARBON	180 5% 1/4W
R222	1-249-421-11	CARBON	2. 2K 5% 1/4W
R223	1-249-429-11	CARBON	10K 5% 1/4W
R224	1-249-428-11	CARBON	8. 2K 5% 1/4W
R225	1-249-430-11	CARBON	12K 5% 1/4W
R226	1-249-409-11	CARBON	220 5% 1/4W
R227	1-249-417-11	CARBON	1K 5% 1/4W
R501	1-249-417-11	CARBON	1K 5% 1/4W
R502	1-215-455-00	METAL	27K 1% 1/6W (511, 570)
R502	1-249-434-11	CARBON	27K 5% 1/4W (370, 411)
R503	1-249-429-11	CARBON	10K 5% 1/4W
R504	1-247-864-11	CARBON	24K 5% 1/4W
R506	1-249-441-11	CARBON	100K 5% 1/4W
R507	1-249-417-11	CARBON	1K 5% 1/4W
R508	1-249-441-11	CARBON	100K 5% 1/4W
R509	1-249-427-11	CARBON	6. 8K 5% 1/4W
R510	1-249-413-11	CARBON	470 5% 1/4W
R511	1-249-429-11	CARBON	10K 5% 1/4W
R512	1-249-413-11	CARBON	470 5% 1/4W
R513	1-247-870-11	CARBON	43K 5% 1/4W
R514	1-249-429-11	CARBON	10K 5% 1/4W
R515	1-249-429-11	CARBON	10K 5% 1/4W
R516	1-249-429-11	CARBON	10K 5% 1/4W
R517	1-249-433-11	CARBON	22K 5% 1/4W (370, 411, 511)
R518	1-249-433-11	CARBON	22K 5% 1/4W (370, 411, 511)
R519	1-249-427-11	CARBON	6. 8K 5% 1/4W (370, 411, 511)
R520	1-249-433-11	CARBON	22K 5% 1/4W (370, 411, 511)
R521	1-249-428-11	CARBON	8. 2K 5% 1/4W (511)
R521	1-249-431-11	CARBON	15K 5% 1/4W (370, 411)
R522	1-249-433-11	CARBON	22K 5% 1/4W (370, 411, 570)
R523	1-247-856-00	CARBON	11K 5% 1/4W (511, 570)
R523	1-247-858-11	CARBON	13K 5% 1/4W (370, 411)
R524	1-249-429-11	CARBON	10K 5% 1/4W (511, 570)
R525	1-249-442-11	CARBON	510 5% 1/4W
R526	1-249-431-11	CARBON	15K 5% 1/4W
R527	1-249-405-11	CARBON	100 5% 1/4W
R528	1-249-405-11	CARBON	100 5% 1/4W
R597	1-249-413-11	CARBON	470 5% 1/4W (511, 570)

Ref. No.	Part No.	Description	Remark
R598	1-249-433-11	CARBON	22K 5% 1/4W (570)
R599	1-249-433-11	CARBON	22K 5% 1/4W (570)
R601	1-249-438-11	CARBON	56K 5% 1/4W (370, 411)
R602	1-249-440-11	CARBON	82K 5% 1/4W (370, 411)
R603	1-247-882-11	CARBON	130K 5% 1/4W (370, 411)
R604	1-249-439-11	CARBON	68K 5% 1/4W (370, 411)
R605	1-249-435-11	CARBON	33K 5% 1/4W (370, 411)
R606	1-247-872-11	CARBON	51K 5% 1/4W (370, 411)
R611	1-247-883-00	CARBON	150K 5% 1/4W (370, 411)
R612	1-247-878-00	CARBON	91K 5% 1/4W (370, 411)
R613	1-247-881-00	CARBON	120K 5% 1/4W (370, 411)
R614	1-247-876-11	CARBON	75K 5% 1/4W (370, 411)
R615	1-249-437-11	CARBON	47K 5% 1/4W (370, 411)
R616	1-249-439-11	CARBON	68K 5% 1/4W (370, 411)
R621	1-247-887-00	CARBON	220K 5% 1/4W (370, 411)
R622	1-247-881-00	CARBON	120K 5% 1/4W (370, 411)
R623	1-249-440-11	CARBON	82K 5% 1/4W (370, 411)
R624	1-249-436-11	CARBON	39K 5% 1/4W (370, 411)
R625	1-247-872-11	CARBON	51K 5% 1/4W (370, 411)
R626	1-249-439-11	CARBON	68K 5% 1/4W (370, 411)
R641	1-249-441-11	CARBON	100K 5% 1/4W (370, 411)
R642	1-249-437-11	CARBON	47K 5% 1/4W (370, 411)
R643	1-249-439-11	CARBON	68K 5% 1/4W (370, 411)
R644	1-249-870-11	CARBON	43K 5% 1/4W (370, 411)
R645	1-247-868-11	CARBON	36K 5% 1/4W (370, 411)
R646	1-249-433-11	CARBON	22K 5% 1/4W (370, 411)
R661	1-247-881-00	CARBON	120K 5% 1/4W (370, 411)
R662	1-249-437-11	CARBON	47K 5% 1/4W (370, 411)
R663	1-249-438-11	CARBON	56K 5% 1/4W (370, 411)
R664	1-249-439-11	CARBON	68K 5% 1/4W (370, 411)
R665	1-247-872-11	CARBON	51K 5% 1/4W (370, 411)
R666	1-247-868-11	CARBON	36K 5% 1/4W (370, 411)
R681	1-247-880-11	CARBON	110K 5% 1/4W (370, 411)
R682	1-247-876-11	CARBON	75K 5% 1/4W (370, 411)
R683	1-249-436-11	CARBON	39K 5% 1/4W (370, 411)
R684	1-249-434-11	CARBON	27K 5% 1/4W (370, 411)
R685	1-249-438-11	CARBON	56K 5% 1/4W (370, 411)
R686	1-247-870-11	CARBON	43K 5% 1/4W (370, 411)
R701	1-247-752-11	CARBON	1K 5% 1/2W
R702	1-249-425-11	CARBON	4. 7K 5% 1/4W
R703	1-249-437-11	CARBON	47K 5% 1/4W
R704	1-249-437-11	CARBON	47K 5% 1/4W
R705	1-249-425-11	CARBON	4. 7K 5% 1/4W
R706	1-249-425-11	CARBON	4. 7K 5% 1/4W
R707	1-249-427-11	CARBON	6. 8K 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
R710	1-249-419-11	CARBON	1. 5K 5% 1/4W
R711	1-249-429-11	CARBON	10K 5% 1/4W

AUDIO

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
R712	1-249-417-11	CARBON	1K	5%	1/4W	R842	1-249-429-11	CARBON	10K	5%	1/4W
R713	1-249-427-11	CARBON	6.8K	5%	1/4W	R843	1-249-437-11	CARBON	47K	5%	1/4W
R714	1-249-427-11	CARBON	6.8K	5%	1/4W	R844	1-247-866-11	CARBON	30K	5%	1/4W
R801	1-249-412-11	CARBON	390	5%	1/4W (511, 570)	R845	1-249-435-11	CARBON	33K	5%	1/4W
R802	1-249-412-11	CARBON	390	5%	1/4W (511, 570)	R846	1-249-425-11	CARBON	4.7K	5%	1/4W
R803	1-249-410-11	CARBON	270	5%	1/4W	R847	1-247-862-11	CARBON	20K	5%	1/4W
R804	1-249-412-11	CARBON	390	5%	1/4W	R848	1-247-872-11	CARBON	51K	5%	1/4W
R805	1-249-413-11	CARBON	470	5%	1/4W	R850	1-247-872-11	CARBON	51K	5%	1/4W
R806	1-249-429-11	CARBON	10K	5%	1/4W	R851	1-249-405-11	CARBON	100	5%	1/4W
R807	1-249-421-11	CARBON	2.2K	5%	1/4W	R853	1-249-437-11	CARBON	47K	5%	1/4W
R808	1-249-421-11	CARBON	2.2K	5%	1/4W	R854	1-247-866-11	CARBON	30K	5%	1/4W
R809	1-247-903-00	CARBON	1M	5%	1/4W	R855	1-249-435-11	CARBON	33K	5%	1/4W
R810	1-249-429-11	CARBON	10K	5%	1/4W	R856	1-249-425-11	CARBON	4.7K	5%	1/4W
R811	1-249-422-11	CARBON	2.7K	5%	1/4W	R857	1-247-862-11	CARBON	20K	5%	1/4W
R812	1-249-422-11	CARBON	2.7K	5%	1/4W	R858	1-247-872-11	CARBON	51K	5%	1/4W
R813	1-249-422-11	CARBON	2.7K	5%	1/4W	R860	1-247-872-11	CARBON	51K	5%	1/4W
R814	1-249-428-11	CARBON	8.2K	5%	1/4W	R861	1-249-405-11	CARBON	100	5%	1/4W
R815	1-247-836-11	CARBON	1.6K	5%	1/4W	R862	1-249-429-11	CARBON	10K	5%	1/4W
R816	1-249-429-11	CARBON	10K	5%	1/4W	R881	1-249-415-11	CARBON	680	5%	1/4W
R817	1-249-429-11	CARBON	10K	5%	1/4W	R882	1-249-429-11	CARBON	10K	5%	1/4W
R818	1-249-425-11	CARBON	4.7K	5%	1/4W	R901	1-249-407-11	CARBON	150	5%	1/4W
R819	1-249-434-11	CARBON	27K	5%	1/4W	R902	1-249-409-11	CARBON	220	5%	1/4W
R820	1-249-429-11	CARBON	10K	5%	1/4W	R903	1-249-411-11	CARBON	330	5%	1/4W
R821	1-249-434-11	CARBON	27K	5%	1/4W	R904	1-249-413-11	CARBON	470	5%	1/4W
R822	1-249-429-11	CARBON	10K	5%	1/4W	R905	1-249-415-11	CARBON	680	5%	1/4W
R823	1-247-895-00	CARBON	470K	5%	1/4W	R906	1-249-417-11	CARBON	1K	5%	1/4W
R824	1-247-895-00	CARBON	470K	5%	1/4W	R907	1-249-420-11	CARBON	1.8K	5%	1/4W
R825	1-249-425-11	CARBON	4.7K	5%	1/4W	R908	1-249-407-11	CARBON	150	5%	1/4W
R826	1-249-425-11	CARBON	4.7K	5%	1/4W	R909	1-249-409-11	CARBON	220	5%	1/4W
R827	1-249-409-11	CARBON	220	5%	1/4W	R910	1-249-411-11	CARBON	330	5%	1/4W
R828	1-249-409-11	CARBON	220	5%	1/4W	R911	1-249-413-11	CARBON	470	5%	1/4W
R829	1-249-409-11	CARBON	220	5%	1/4W	R912	1-249-415-11	CARBON	680	5%	1/4W
R830	1-249-407-11	CARBON	150	5%	1/4W (370, 411, 570)	R913	1-249-417-11	CARBON	1K	5%	1/4W
R830	1-249-409-11	CARBON	220	5%	1/4W (511)	R914	1-249-426-11	CARBON	5.6K	5%	1/4W (511, 570)
R831	1-249-407-11	CARBON	150	5%	1/4W (370, 411, 570)	R915	1-249-430-11	CARBON	12K	5%	1/4W (511, 570)
R831	1-249-409-11	CARBON	220	5%	1/4W (511)	R916	1-249-411-11	CARBON	330	5%	1/4W (370, 570)
R832	1-249-407-11	CARBON	150	5%	1/4W (370, 411, 570)	R916	1-249-413-11	CARBON	470	5%	1/4W (411, 511)
R832	1-249-409-11	CARBON	220	5%	1/4W (511)	R917	1-249-411-11	CARBON	330	5%	1/4W (370, 570)
R833	1-249-435-11	CARBON	33K	5%	1/4W	R917	1-249-413-11	CARBON	470	5%	1/4W (411, 511)
R834	1-249-413-11	CARBON	470	5%	1/4W	< VARIABLE RESISTOR >					
R835	1-249-413-11	CARBON	470	5%	1/4W	RV101	1-238-600-11	RES. ADJ. CARBON	10K		
R836	1-249-429-11	CARBON	10K	5%	1/4W	RV201	1-238-600-11	RES. ADJ. CARBON	10K		
R837	1-249-410-11	CARBON	270	5%	1/4W	RV501	1-241-058-11	RES. VAR. CARBON	50K/50K	(REC LABEL)	
R838	1-249-412-11	CARBON	390	5%	1/4W (511, 570)	RV502	1-241-057-11	RES. VAR. CARBON	50K/50K	(BALANCE)	
R839	1-249-412-11	CARBON	390	5%	1/4W (511, 570)						
R840	1-249-441-11	CARBON	100K	5%	1/4W (511, 570)						
R841	1-249-415-11	CARBON	680	5%	1/4W						

AUDIO

HX PRO

MD-A

Ref. No.	Part No.	Description	Remark
< SWITCH >			
S701	1-554-118-00	SWITCH, PUSH (1 KEY) (POWER)	
S901	1-572-358-11	SWITCH, SLIDE (DOLBY NR)	
S902	1-572-358-11	SWITCH, SLIDE (DIR MODE) (511, 570)	
S903	1-554-303-21	SWITCH, TACTILE (A STOP)	
S904	1-554-303-21	SWITCH, TACTILE (A FWD)	
S905	1-554-303-21	SWITCH, TACTILE (A REV) (511, 570)	
S906	1-554-303-21	SWITCH, TACTILE (B REW)	
S907	1-554-303-21	SWITCH, TACTILE (B FF)	
S908	1-554-303-21	SWITCH, TACTILE (B REC)	
S909	1-554-303-21	SWITCH, TACTILE (DUBBING HIGH)	
S910	1-554-303-21	SWITCH, TACTILE (DUBBING NORM)	
S911	1-554-303-21	SWITCH, TACTILE (B STOP)	
S912	1-554-303-21	SWITCH, TACTILE (B PAUSE)	
S913	1-554-303-21	SWITCH, TACTILE (B FWD)	
S914	1-554-303-21	SWITCH, TACTILE (B REV) (511, 570)	
S915	1-554-303-21	SWITCH, TACTILE (B REC MUTE)	
S916	1-554-303-21	SWITCH, TACTILE (A REW)	
S917	1-554-303-21	SWITCH, TACTILE (A FF)	
< CERAMIC >			
X801	1-577-358-21	VIBRATOR, CERAMIC (4MHZ)	
*****			
* A-2006-403-A HX PRO BOARD, COMPLETE (570)			
*****			
< CAPACITOR >			
C44	1-162-288-31	CERAMIC	330PF 10% 50V
C45	1-136-273-91	FILM	75PF 5% 630V
C51	1-136-153-00	FILM	0.01uF 5% 50V
C52	1-136-157-00	FILM	0.022uF 5% 50V
C53	1-136-165-00	FILM	0.1uF 5% 50V
C54	1-136-437-11	FILM	220PF 5% 630V
C55	1-136-433-11	FILM	100PF 5% 630V
C56	1-130-472-00	MYLAR	0.0012uF 5% 50V
C64	1-162-288-31	CERAMIC	330PF 10% 50V
C65	1-136-273-91	FILM	75PF 5% 630V
C71	1-136-153-00	FILM	0.01uF 5% 50V
C72	1-136-157-00	FILM	0.022uF 5% 50V
C73	1-136-165-00	FILM	0.1uF 5% 50V
C74	1-136-437-11	FILM	220PF 5% 630V
C75	1-136-433-11	FILM	100PF 5% 630V
C76	1-130-472-00	MYLAR	0.0012uF 5% 50V
C91	1-126-059-11	ELECT	10uF 20% 50V
C92	1-126-059-11	ELECT	10uF 20% 50V
C93	1-126-022-11	ELECT	47uF 20% 10V
C94	1-107-046-00	MICA	4.7PF 500V

Ref. No.	Part No.	Description	Remark
< CONNECTOR >			
CNP22	* 1-565-347-11	SOCKET, CONNECTOR (PC BOARD) 8P	
CNP83	* 1-568-826-11	SOCKET, CONNECTOR 7P	
< IC >			
IC91	8-759-106-56	IC uPC1297CA	
< COIL >			
L41	1-410-780-11	INDUCTOR	27mH
L61	1-410-780-11	INDUCTOR	27mH
< TRANSISTOR >			
Q91	8-729-900-80	TRANSISTOR DTC114ES	
Q92	8-729-900-65	TRANSISTOR DTA144ES	
Q93	8-729-900-80	TRANSISTOR DTC114ES	
Q94	8-729-900-80	TRANSISTOR DTC114ES	
Q95	8-729-900-65	TRANSISTOR DTA144ES	
Q96	8-729-900-65	TRANSISTOR DTA144ES	
< RESISTOR >			
R45	1-249-430-11	CARBON	12K 5% 1/4W
R51	1-249-431-11	CARBON	15K 5% 1/4W
R52	1-249-393-11	CARBON	10 5% 1/4W
R53	1-247-883-00	CARBON	150K 5% 1/4W
R54	1-249-429-11	CARBON	10K 5% 1/4W
R65	1-249-430-11	CARBON	12K 5% 1/4W
R71	1-249-431-11	CARBON	15K 5% 1/4W
R72	1-249-393-11	CARBON	10 5% 1/4W
R73	1-247-883-00	CARBON	150K 5% 1/4W
R74	1-249-429-11	CARBON	10K 5% 1/4W
R91	1-249-427-11	CARBON	6.8K 5% 1/4W
R93	1-247-868-11	CARBON	36K 5% 1/4W
R94	1-249-427-11	CARBON	6.8K 5% 1/4W
< VARIABLE RESISTOR >			
RV42	1-230-722-11	RES, ADJ, CARBON 22K	
RV62	1-230-722-11	RES, ADJ, CARBON 22K	
< TRANSFORMER >			
T51	1-433-367-11	TRANSFORMER, BIAS OSSCILATION	
T71	1-433-367-11	TRANSFORMER, BIAS OSSCILATION	
TP91	* 1-564-518-11	PLUG, CONNECTOR 3P	
*****			
* 1-634-840-11 MD-A BOARD (DECK A)			
*****			

# TC-W370/W411/WR511/WR570

**MD-A**

**MD-C**

Ref. No.	Part No.	Description	Remark		
< CAPACITOR >					
C11	1-110-342-11	MYLAR	390PF	5%	50V
C12	1-136-157-00	FILM	0.022uF	5%	50V
C13	1-124-282-00	ELECT	22uF	20%	25V
C21	1-110-342-11	MYLAR	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V
C23	1-124-282-00	ELECT	22uF	20%	25V
C31	1-124-443-00	ELECT	100uF	20%	10V
C32	1-124-443-00	ELECT	100uF	20%	10V
C71	1-123-875-11	ELECT	10uF	20%	50V
C72	1-123-875-11	ELECT	10uF	20%	50V
< CONNECTOR >					
CNP31	* 1-568-824-11	SOCKET, CONNECTOR 5P			
CNP32	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
CNP71	* 1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P			
CNP72	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
CNP73	* 1-568-826-11	SOCKET, CONNECTOR 7P			
< IC >					
IC31	8-759-111-44	IC uPC4570C-1			
< TRANSISTOR >					
Q71	8-729-820-16	TRANSISTOR 2SA1317-S			
< RESISTOR >					
R11	1-247-881-00	CARBON	120K	5%	1/4W
R12	1-249-405-11	CARBON	100	5%	1/4W
R13	1-247-882-11	CARBON	130K	5%	1/4W
R14	1-249-426-11	CARBON	5.6K	5%	1/4W
R21	1-247-881-00	CARBON	120K	5%	1/4W
R22	1-249-405-11	CARBON	100	5%	1/4W
R23	1-247-882-11	CARBON	130K	5%	1/4W
R24	1-249-426-11	CARBON	5.6K	5%	1/4W
R31	1-249-409-11	CARBON	220	5%	1/4W
R32	1-249-409-11	CARBON	220	5%	1/4W
R71	1-247-864-11	CARBON	24K	5%	1/4W
R72	1-249-433-11	CARBON	22K	5%	1/4W
R73	1-249-437-11	CARBON	47K	5%	1/4W
R74	1-249-437-11	CARBON	47K	5%	1/4W
< VARIABLE RESISTOR >					
RV11	1-238-597-11	RES. ADJ. CARBON 1K			
RV21	1-238-597-11	RES. ADJ. CARBON 1K			
RV71	1-238-600-11	RES. ADJ. CARBON 10K			
RV72	1-238-600-11	RES. ADJ. CARBON 10K			

Ref. No.	Part No.	Description	Remark		
	1-634-842-11	MD-C BOARD (570 DECK B) *****			
< CAPACITOR >					
C11	1-110-342-11	MYLAR	390PF	5%	50V
C12	1-136-157-00	FILM	0.022uF	5%	50V
C13	1-124-282-00	ELECT	22uF	20%	25V
C21	1-110-342-11	MYLAR	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V
C23	1-124-282-00	ELECT	22uF	20%	25V
C31	1-124-443-00	ELECT	100uF	20%	10V
C32	1-124-443-00	ELECT	100uF	20%	10V
C33	1-124-119-00	ELECT	330uF	20%	16V
C51	1-136-230-00	FILM	0.0022uF	5%	100V
C52	1-136-230-00	FILM	0.0022uF	5%	100V
C53	1-130-856-00	FILM	0.0068uF	5%	100V
C54	1-136-601-11	FILM	0.01uF	5%	630V
C55	1-161-494-00	CERAMIC	0.022uF		25V
C56	1-126-157-11	ELECT	10uF	20%	16V
C71	1-123-875-11	ELECT	10uF	20%	50V
C72	1-123-875-11	ELECT	10uF	20%	50V
< CONNECTOR >					
CNP31	* 1-568-824-11	SOCKET, CONNECTOR 5P			
CNP32	* 1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P			
CNP34	* 1-565-344-11	PIN, CONNECTOR (PC BOARD) 8P			
CNP71	* 1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P			
CNP72	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P			
CNP73	* 1-568-828-11	SOCKET, CONNECTOR 9P			
CNP75	* 1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
< DIODE >					
D31	8-719-107-94	DIODE 1SS202-1			
< IC >					
IC31	8-759-111-44	IC uPC4570C-1			
< TRANSISTOR >					
Q51	8-729-194-57	TRANSISTOR 2SC945			
Q52	8-729-194-57	TRANSISTOR 2SC945			
Q53	8-729-801-84	TRANSISTOR 2SB1013-4			
Q71	8-729-820-16	TRANSISTOR 2SA1317-S			
< RESISTOR >					
R11	1-247-881-00	CARBON	120K	5%	1/4W
R12	1-249-405-11	CARBON	100	5%	1/4W
R13	1-247-882-11	CARBON	130K	5%	1/4W
R14	1-249-426-11	CARBON	5.6K	5%	1/4W

MD-C MD-B

Ref. No.	Part No.	Description	Remark		
R21	1-247-881-00	CARBON	120K	5%	1/4W
R22	1-249-405-11	CARBON	100	5%	1/4W
R23	1-247-882-11	CARBON	130K	5%	1/4W
R24	1-249-426-11	CARBON	5.6K	5%	1/4W
R31	1-249-409-11	CARBON	220	5%	1/4W
R32	1-249-409-11	CARBON	220	5%	1/4W
R51	1-249-441-11	CARBON	100K	5%	1/4W
R52	1-249-441-11	CARBON	100K	5%	1/4W
R53	1-249-429-11	CARBON	10K	5%	1/4W
R54	△ 1-212-851-00	FUSIBLE	5.6	5%	1/4W F
R55	1-249-429-11	CARBON	10K	5%	1/4W
R71	1-247-864-11	CARBON	24K	5%	1/4W
R72	1-249-433-11	CARBON	22K	5%	1/4W
R73	1-249-437-11	CARBON	47K	5%	1/4W
R74	1-249-437-11	CARBON	47K	5%	1/4W
< VARIABLE RESISTOR >					
RV11	1-238-597-11	RES. ADJ. CARBON	1K		
RV21	1-238-597-11	RES. ADJ. CARBON	1K		
RV71	1-238-600-11	RES. ADJ. CARBON	10K		
RV72	1-238-600-11	RES. ADJ. CARBON	10K		
< RELAY >					
RY31	1-515-726-11	RELAY			
< TRANSFORMER >					
T51	1-433-366-11	TRANSFORMER, BIAS OSCILLATION			
*****					
* 1-634-843-11 PC BOARD, MD-B (370, 411, 511 DECK B)					
*****					
< CAPACITOR >					
C11	1-110-342-11	MYLAR	390PF	5%	50V
C12	1-136-157-00	FILM	0.022uF	5%	50V
C13	1-124-282-00	ELECT	22uF	20%	25V
C14	1-136-273-91	FILM	75PF	5%	630V
C15	1-162-288-31	CERAMIC	330PF	10%	50V
C17	1-162-209-31	CERAMIC	27PF	5%	50V (511)
C17	1-162-288-31	CERAMIC	330PF	10%	50V (370, 411)
C21	1-110-342-11	MYLAR	390PF	5%	50V
C22	1-136-157-00	FILM	0.022uF	5%	50V
C23	1-124-282-00	ELECT	22uF	20%	25V
C24	1-136-273-91	FILM	75PF	5%	630V
C25	1-162-288-31	CERAMIC	330PF	10%	50V
C27	1-162-288-31	CERAMIC	330PF	10%	50V (370, 411)
C27	1-162-209-31	CERAMIC	27PF	5%	50V (511)

Ref. No.	Part No.	Description	Remark		
C31	1-124-443-00	ELECT	100uF	20%	10V
C32	1-124-443-00	ELECT	100uF	20%	10V
C33	1-124-119-00	ELECT	330MF	20%	16V
C51	1-130-729-00	FILM	0.0027	5%	100V (511)
C51	1-136-593-11	FILM	0.0033MF	5%	100V (370, 411)
C52	1-130-729-00	FILM	0.0027	5%	100V (511)
C52	1-136-593-11	FILM	0.0033MF	5%	100V (370, 411)
C53	1-130-339-00	FILM	0.0056MF	5%	100V
C54	1-136-562-11	FILM	0.0082	5%	630V (511)
C54	1-136-601-11	FILM	0.01MF	5%	630V (370, 411)
C55	1-161-494-00	CERAMIC	0.022MF		25V
C56	1-124-925-11	ELECT	2.2MF	20%	50V
C57	1-124-791-11	ELECT	1MF	20%	50V
C58	1-162-282-31	CERAMIC	100PF	10%	50V
C71	1-123-875-11	ELECT	10MF	20%	50V
C72	1-123-875-11	ELECT	10MF	20%	50V
< CONNECTOR >					
CNP31	* 1-568-824-11	SOCKET, CONNECTOR	5P		
CNP32	* 1-564-709-11	PIN, CONNECTOR (SMALL TYPE)	7P		
CNP71	* 1-564-705-11	PIN, CONNECTOR (SMALL TYPE)	3P		
CNP72	* 1-564-706-11	PIN, CONNECTOR (SMALL TYPE)	4P		
CNP73	* 1-568-832-11	SOCKET, CONNECTOR	13P		
< DIODE >					
D31	8-719-107-94	DIODE 1SS202-1			
< IC >					
IC31	8-759-111-44	IC uPC4570C-1			
< COIL >					
L11	1-410-780-11	INDUCTOR	27mH		
L21	1-410-780-11	INDUCTOR	27mH		
< TRANSISTOR >					
Q51	8-729-142-46	TRANSISTOR 2SC2001-LK			
Q52	8-729-142-46	TRANSISTOR 2SC2001-LK			
Q53	8-729-111-29	TRANSISTOR 2SD1616A-K			
Q71	8-729-820-16	TRANSISTOR 2SA1317-S			
< RESISTOR >					
R11	1-247-881-00	CARBON	120K	5%	1/4W
R12	1-249-405-11	CARBON	100	5%	1/4W
R13	1-247-882-11	CARBON	130K	5%	1/4W
R14	1-249-426-11	CARBON	5.6K	5%	1/4W
R15	1-249-430-11	CARBON	12K	5%	1/4W

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

SW-A

SW-B

Ref. No.	Part No.	Description	Remark		
R21	1-247-881-00	CARBON	120K	5%	1/4W
R22	1-249-405-11	CARBON	100	5%	1/4W
R23	1-247-882-11	CARBON	130K	5%	1/4W
R24	1-249-426-11	CARBON	5.6K	5%	1/4W
R25	1-249-430-11	CARBON	12K	5%	1/4W
R31	1-249-409-11	CARBON	220	5%	1/4W
R32	1-249-409-11	CARBON	220	5%	1/4W
R51	1-249-435-11	CARBON	33K	5%	1/4W
R52	1-249-435-11	CARBON	33K	5%	1/4W
R53	1-249-429-11	CARBON	10K	5%	1/4W
R54	△ 1-212-849-00	FUSIBLE	4.7	5%	1/4W F (511)
R54	△ 1-212-851-00	FUSIBLE	5.6	5%	1/4W F (370, 411)
R71	1-247-864-11	CARBON	24K	5%	1/4W
R72	1-249-433-11	CARBON	22K	5%	1/4W
R73	1-249-437-11	CARBON	47K	5%	1/4W
R74	1-249-437-11	CARBON	47K	5%	1/4W
< VARIABLE RESISTOR >					
RV11	1-238-597-11	RES. ADJ. CARBON	1K		
RV12	1-230-498-11	RES. ADJ. CARBON	47K		(370, 411)
RV12	1-230-500-11	RES. ADJ. CARBON	220K		(511)
RV21	1-238-597-11	RES. ADJ. CARBON	1K		
RV22	1-230-498-11	RES. ADJ. CARBON	47K		(370, 411)
RV22	1-230-500-11	RES. ADJ. CARBON	220K		(511)
RV71	1-238-600-11	RES. ADJ. CARBON	10K		
RV72	1-238-600-11	RES. ADJ. CARBON	10K		
< RELAY >					
RY31	1-515-726-11	RELAY			
< TRANSFORMER >					
T51	1-433-337-11	TRANSFORMER, BIAS OSCILLATION			(511)
T51	1-433-338-12	TRANSFORMER, BIAS OSCILLATION			(370, 411)
*****					
* 1-634-841-11 SW-A BOARD					
*****					
3-343-419-01 HOLDER (S SENSER A)					
< CONNECTOR >					
CNP81	* 1-568-852-11	SOCKET, CONNECTOR	9P		
< IC >					
IC81	8-719-710-03	PHOTO INTERRUPTOR	NJL5165K-B		

Ref. No.	Part No.	Description	Remark		
< RESISTOR >					
R84	1-249-417-11	CARBON	1K	5%	1/4W
R85	1-249-408-11	CARBON	180	5%	1/4W
< SWITCH >					
S81	1-571-958-11	SWITCH, PUSH (1 KEY)	(STOP)		
S82	1-571-281-21	SWITCH, LEAF	(70EQ)		
S86	1-571-281-21	SWITCH, LEAF	(HALF)		
*****					
* 1-634-841-11 SW-B BOARD					
*****					
3-343-419-01 HOLDER (S SENSER A)					
< CONNECTOR >					
CNP81	* 1-568-852-11	SOCKET, CONNECTOR	9P		
< IC >					
IC81	8-719-710-03	PHOTO INTERRUPTOR	NJL5165K-B		
< RESISTOR >					
R81	1-249-414-11	CARBON	560	5%	1/4W
R82	1-247-818-11	CARBON	300	5%	1/4W (511, 570)
R83	1-247-834-11	CARBON	1.3K	5%	1/4W
R84	1-249-417-11	CARBON	1K	5%	1/4W
R85	1-249-408-11	CARBON	180	5%	1/4W
< SWITCH >					
S81	1-571-958-11	SWITCH, PUSH (1 KEY)	(STOP)		
S82	1-571-281-21	SWITCH, LEAF	(70EQ)		
S83	1-571-281-21	SWITCH, LEAF	(METAL)		
S84	1-571-281-21	SWITCH, LEAF	(REC A)		
S85	1-571-281-21	SWITCH, LEAF	(REC B)		(511, 570)
S86	1-571-281-21	SWITCH, LEAF	(HALF)		
*****					

<p><b>Note:</b> The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.</p>	<p><b>Note:</b> Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
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Ref. No.	Part No.	Description	Remark
MISCELLANEOUS *****			
6	△ 1-551-188-XX	CORD, POWER (E)	
6	△ 1-551-506-XX	CORD, POWER (US, Canadian)	
6	△ 1-555-795-00	CORD, POWER, EULO PLUG (AEP, G)	
6	△ 1-556-035-00	CORD, POWER (UK)	
11	△ 1-569-007-11	ADAPTER, CONVERSION 2P (E)	
70	1-575-784-11	WIRE, FLAT TYPE (13 CORE) (370, 411, 511)	
80	1-575-851-21	WIRE, FLAT TYPE (7 CORE) (570)	
81	* 1-533-213-31	HOLDER, FUSE	
83	* 1-575-847-11	WIRE, FLAT TYPE (5 CORE)	
84	1-575-779-11	WIRE, FLAT TYPE (5 CORE)	
85	1-575-968-11	WIRE, FLAT TYPE (7 CORE)	
86	1-575-781-11	WIRE, FLAT TYPE (9 CORE)	
87	1-575-782-11	WIRE, FLAT TYPE (9 CORE)	
F701	△ 1-532-285-00	FUSE, TIME-LAG 1.25A (AEP, G, UK, E)	
F701	△ 1-532-742-11	FUSE, GLASS TUBE 1.6A (US, Canadian)	
F702	△ 1-532-285-00	FUSE, TIME-LAG 1.25A (AEP, G, UK, E)	
F702	△ 1-532-742-11	FUSE, GLASS TUBE 1.6A (US, Canadian)	
HE901	1-543-535-11	HEAD, MAGNETIC (ERASE) (370, 411 DECK B)	
HP901	1-543-536-11	HEAD, MAGNETIC (PLAYBACK) (370, 411 DECK A)	
HP902	A-2003-416-A	BASE ASSY, HEAD (PLAYBACK) (511, 570 DECK A)	
HRP901	1-543-537-11	HEAD, MAGNETIC (REC/PB) (370, 411 DECK B)	
HRP902	} A-2003-477-A	BASE ASSY, HEAD (REC/PB/ERASE) (511, 570 DECK B)	
HE902			
M901	X-3359-417-1	MOTOR (CAPSTAN) ASSY	
M902	A-2003-474-A	MOTOR (REEL) ASSY	
T701	△ 1-449-420-21	TRANSFORMER, POWER (US, Canadian)	
T701	△ 1-449-666-21	TRANSFORMER, POWER (E)	
T701	△ 1-450-465-11	TRANSFORMER, POWER (AEP, G, UK)	
VS901	△ 1-570-307-11	SWITCH, VOLTAGE CHANGE (E)	

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ACCESSORY & PACKING MATERIAL

- 1-558-271-11 CORD, CONNECTION
- 1-559-533-11 CORD, CONNECTION
- \* 3-354-917-01 CUSHION
- \* 3-366-701-01 INDIVIDUAL CARTON (570)
- \* 3-366-701-11 INDIVIDUAL CARTON (511)
- \* 3-366-701-21 INDIVIDUAL CARTON (370)
- \* 3-366-701-31 INDIVIDUAL CARTON (411)
- 3-703-450-01 INSTRUCTION (US)
- 3-753-096-11 MANUAL, INSTRUCTION (Canadian, AEP)  
(ENGLISH, FRENCH, SPANISH, PORTUGUESE)
- 3-753-096-21 MANUAL, INSTRUCTION (US, UK) (ENGLISH)
- 3-753-096-41 MANUAL, INSTRUCTION (AEP)  
(GERMAN, DUTCH, SWEDISH, ITALIAN)
- 3-753-096-51 MANUAL, INSTRUCTION (G) (GERMAN)
- 3-753-096-61 MANUAL, INSTRUCTION (E)  
(ENGLISH, FRENCH, SPANISH, CHINESE)

Ref. No.	Part No.	Description	Remark
<b>HARDWARE LIST</b>			
# 1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
# 2	7-621-849-00	SCREW (BV/RING)	
# 3	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S (E)	
# 4	7-621-773-93	SCREW (PANEL 2.6 TP2)	
# 5	7-682-547-04	SCREW +BVTT 3X6 (S)	
# 6	7-621-773-95	SCREW +BVTT 2.6X6 (S)	
# 7	7-627-556-08	SCREW +P 2.6X2.8	
# 8	7-621-775-00	SCREW +B 2.6X3	
# 9	7-621-772-58	SCREW (+B 2X10) (370, 411)	

**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.