

# TC-WR87ES/WR775

## SERVICE MANUAL

US Model  
Canadian Model

TC-WR775

US Model

TC-WR87ES



Photo: TC-WR87ES

### 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<br>(Sony METAL-SLT) | 58 dB (WR775)<br>59 dB (WR87ES) | 66 dB (WR775)<br>67 dB (WR87ES) | 73 dB (WR775)<br>74 dB (WR87ES) |
| Type II (Sony UX-S)         | 57 dB (WR775)<br>58 dB (WR87ES) | 65 dB (WR775)<br>66 dB (WR87ES) | 72 dB (WR775)<br>73 dB (WR87ES) |
| Type I (Sony HF-S)          | 55 dB (WR775)<br>56 dB (WR87ES) | 63 dB (WR775)<br>64 dB (WR87ES) | 70 dB (WR775)<br>71 dB (WR87ES) |

Total harmonic distortion 1.0% (with Sony METAL-SLT cassettes)

Frequency response (DOLBY NR OFF)

|                                      |                                                                                         |
|--------------------------------------|-----------------------------------------------------------------------------------------|
| Type IV cassette<br>(Sony METAL-SLT) | 30 - 18,000 Hz ( $\pm 3$ dB, IEC)<br>30 - 15,000 Hz ( $\pm 3$ dB 0VU (-4 dB) recording) |
| Type II cassette<br>(Sony UX-S)      | 30 - 17,000 Hz ( $\pm 3$ dB, IEC)                                                       |
| Type I cassette<br>(Sony HF-S)       | 30 - 15,000 Hz ( $\pm 3$ dB, IEC)                                                       |

Wow and flutter  $\pm 0.13\%$  W.Peak (IEC)  
0.07% WRMS (NAB)  
 $\pm 0.18\%$  W.Peak (DIN)

Inputs

|                              |                 |           |
|------------------------------|-----------------|-----------|
| Line inputs<br>(phono jacks) | Sensitivity     | 77.5 mV   |
|                              | Input impedance | 47 k ohms |

|                                        |           |           |                  |  |
|----------------------------------------|-----------|-----------|------------------|--|
| Model Name Using<br>Similar Mechanism  |           | TC-WR775  | TC-WR720/WR720A  |  |
|                                        |           | TC-WR87ES | TC-WR80ES/WR820A |  |
| Tape<br>Transport<br>Mechanism<br>Type | TC-WR775  | DECK A, B | TCM-190RB12      |  |
|                                        | TC-WR87ES | DECK A, B | TCM-190RB31      |  |

Outputs

|                                   |                    |                                                                                                          |
|-----------------------------------|--------------------|----------------------------------------------------------------------------------------------------------|
| Line outputs<br>(phono jacks)     | Rated output level | 0.32 V at a load<br>impedance of<br>47 k ohms                                                            |
|                                   | Load impedance     | Over 10 k ohms                                                                                           |
| Headphones<br>(stereo phone jack) | Output level       | 0.2 mW at a load<br>impedance of 32 ohms (WR775)<br>0-1.25 mW at a load<br>impedance of 32 ohms (WR87ES) |

General

Power requirements 120 V AC, 60 Hz  
Power consumption 30 W  
Dimensions Approx. 430  $\times$  135  $\times$  300 mm (w/h/d)  
(17  $\times$  5  $\frac{1}{8}$   $\times$  11  $\frac{7}{8}$  inches)  
including projecting parts and controls  
Weight Approx. 4.9 kg (10 lbs 13 oz) (WR775)  
Approx. 5.3 kg (11 lbs 11 oz) (WR87ES)

Supplied accessory

Audio connecting cords (2)

Design and specifications subject to change without notice.

WR775 : TC-WR775  
WR87ES : TC-WR87ES

\* Dolby noise reduction and HX Pro headroom 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.

STEREO CASSETTE DECK  
**SONY**



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## FEATURES

- The Dolby HX PRO\* system which improves the linearity of a tape's high-range response during recording.
- A relay function for long recording and playback.
- Automatic tape type detection during playback and recording.
- Auto-synchro dubbing at normal or high (double) speed.
- AMS and memory play functions which provide easy access to desired selections.
- An easy-to-read digital counter which shows the elapsed recording or playback time for decks A and B.

## 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.

## 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)

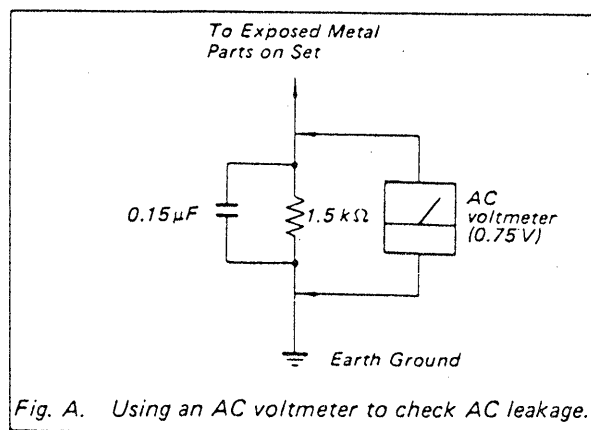


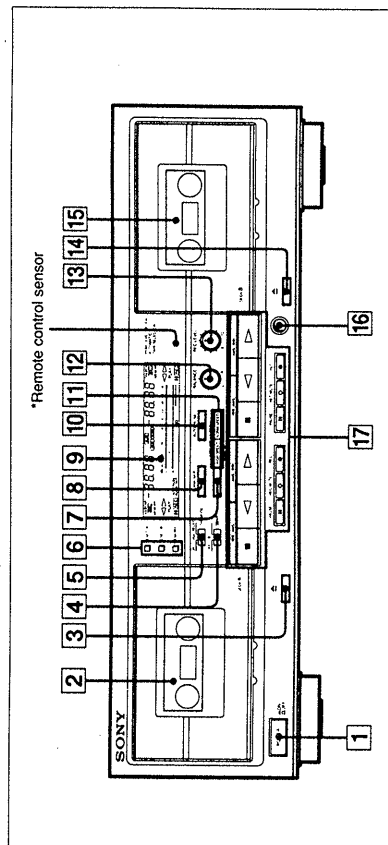
Fig. A. Using an AC voltmeter to check AC leakage.

## SECTION 1 GENERAL

This section is extracted from instruction manual.

## Identification of Front Panel Parts

**TC-WR775**



**For details, refer to the page number indicated in ●**

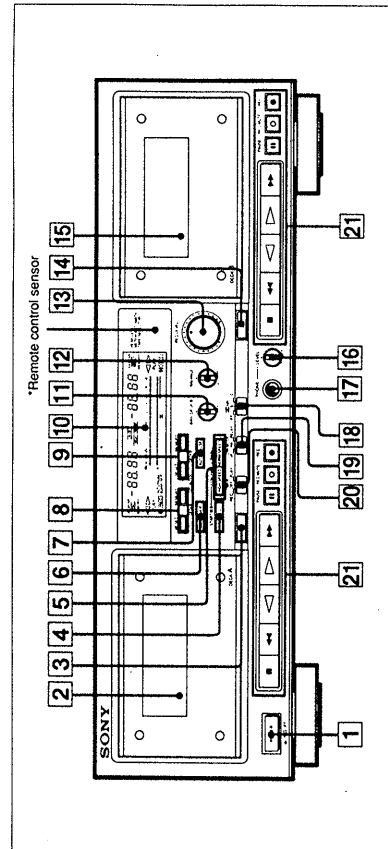
- 1** POWER switch
- 2** Deck A
- 3** (eject) button (deck A)
- 4** NR (Dolby noise reduction) switch **7** **8** **9**
- 5** DIR (direction) MODE switch **6** **10** **11** **12**
- 6** COUNTER buttons **1**
- RESET A button (deck A)  
RESET B button (deck B)  
MEMORY button (for decks A and B)
- 7** A+B REC (simultaneous recording) button **8**
- 9** BLANK SKIP button **10**
- 11** Display panel
- 12** AUTO PAUSE button **13**
- 14** SYNCHRO DUBBING buttons **15**  
HIGH SPEED button  
NORM (normal) SPEED button
- 16** BALANCE control **17**
- 18** REC (recording) LEVEL control **19** **20**
- 21** (eject) button (deck B)
- 22** Deck B
- 23** PHONES (headphones) jack (stereo phone jack)
- 24** Tape operation buttons  
 (stop) button  
 (leftward fast winding) (AMS\*\*) button  
 (reverse play) button  
 (forward play) button  
 (rightward fast winding) (AMS\*\*) button  
 PAUSE button  
 REC MUTE (record muling) button **25**  
 REC (recording) button
- \*Remote control sensor**  
You can remotely control this cassette deck with:  
— A remote commander that came with a Sony amplifier receiver if it has the mark and cassette deck control capability.  
— Any optional Sony remote commander with the mark and cassette deck control capability.
- \*\*AMS** is an abbreviation for Automatic Music Sensor.

**Remote control sensor**  
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- A remote commander that came with a Sony receiver if it has the  mark and cassette deck capability.
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\*\*\*AMS is an abbreviation for Automatic Music Sensor.

**TC-WR87ES**



*For details, refer to the page number indicated in ●*

- 1 POWER switch
- 2 Deck A
- 3  (eject) button (deck A)
- 4 A+B REC (simultaneous recording) button
- 5 SYNCHRO DUBBING buttons
  - HIGH SPEED button
  - NORM (normal) SPEED button
- 6 BLANK SKIP button
- 7 AUTO PAUSE button
- 8 COUNTER buttons (deck A)
- 9 NR (Dolby noise reduction) switch
- 10 DIR (direction) MODE switch
- 11 TIMER switch
- 12 Tape operation buttons
  - (stop) button
  - ◀◀ (leftward fast winding) (AMS\*\*) button
  - ▶▶ (reverse play) button
  - ▶ (forward play) button
  - ▶▶ (rightward fast winding) (AMS\*\*) button
  - || PAUSE button
  - REC MUTE (record muting) button
  - REC (recording) button

## \* Remote control sensor

- Any optional Sony remote commander with the **SR** mark and cassette deck control capability.

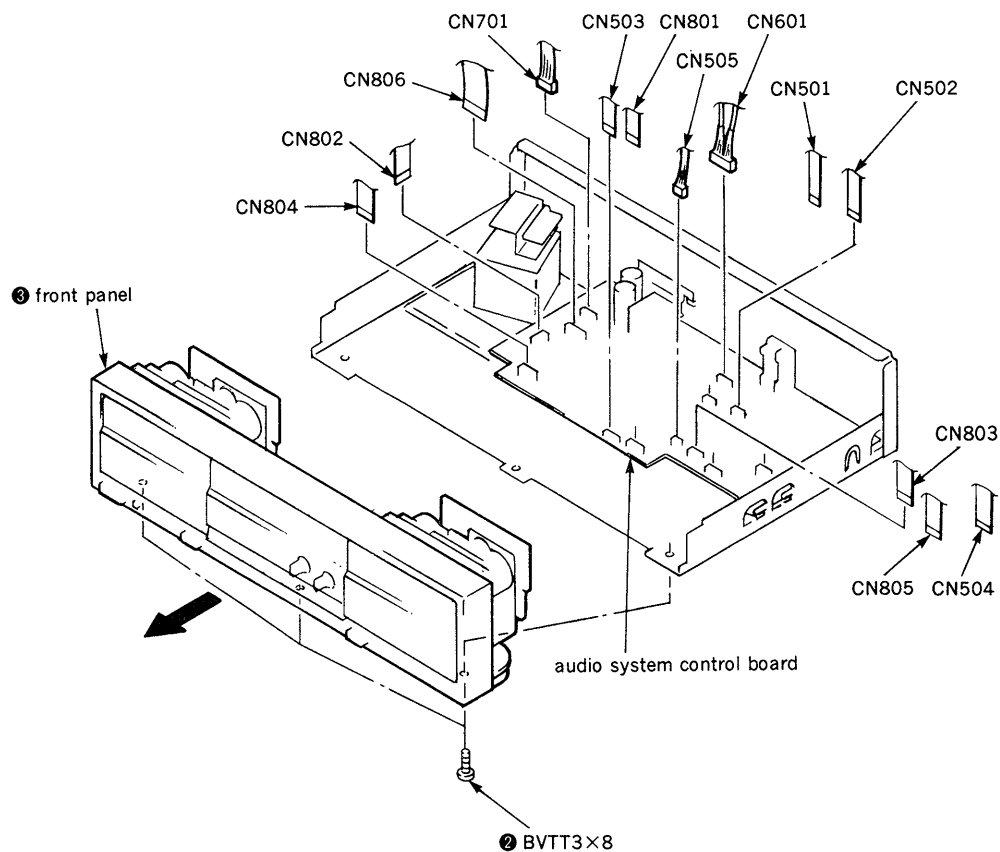
\*\*\*AMS is an abbreviation for Automatic Music Sensor.

## SECTION 2 DISASSEMBLY

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

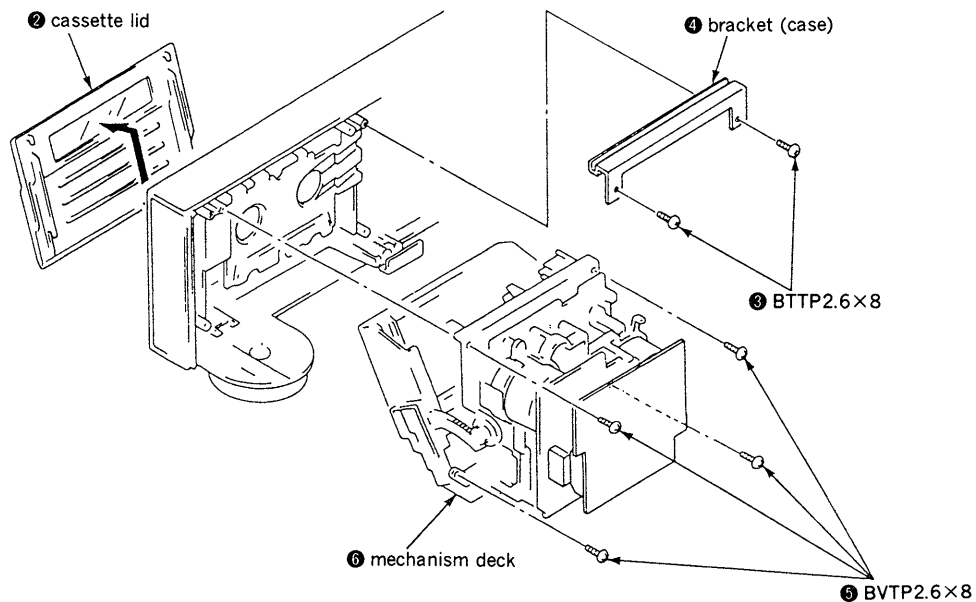
### 2-1. FRONT PANEL (TC-WR775)

- ① Remove the connector from audio system control board.



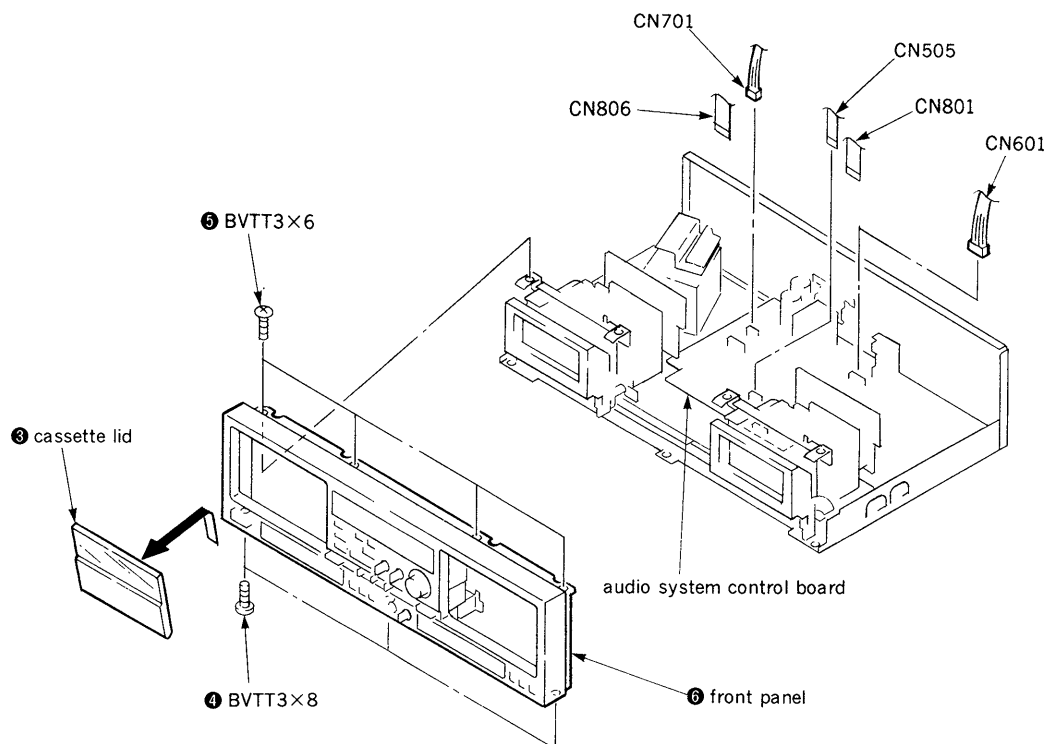
### 2-2. MECHANISM DECK (TC-WR775)

- ① Push the EJECT button.

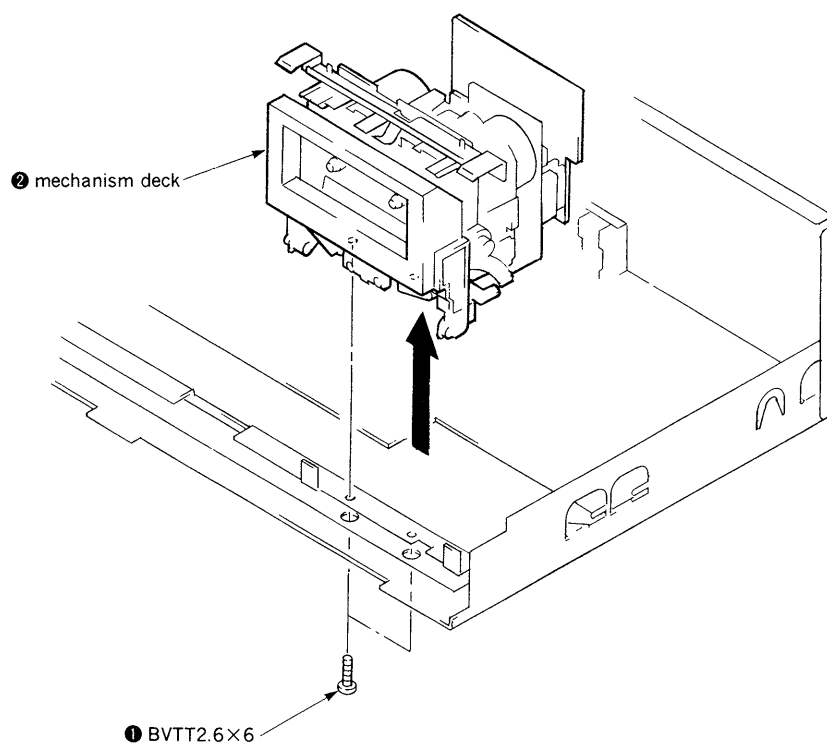


## 2-3. FRONT PANEL (TC-WR87ES)

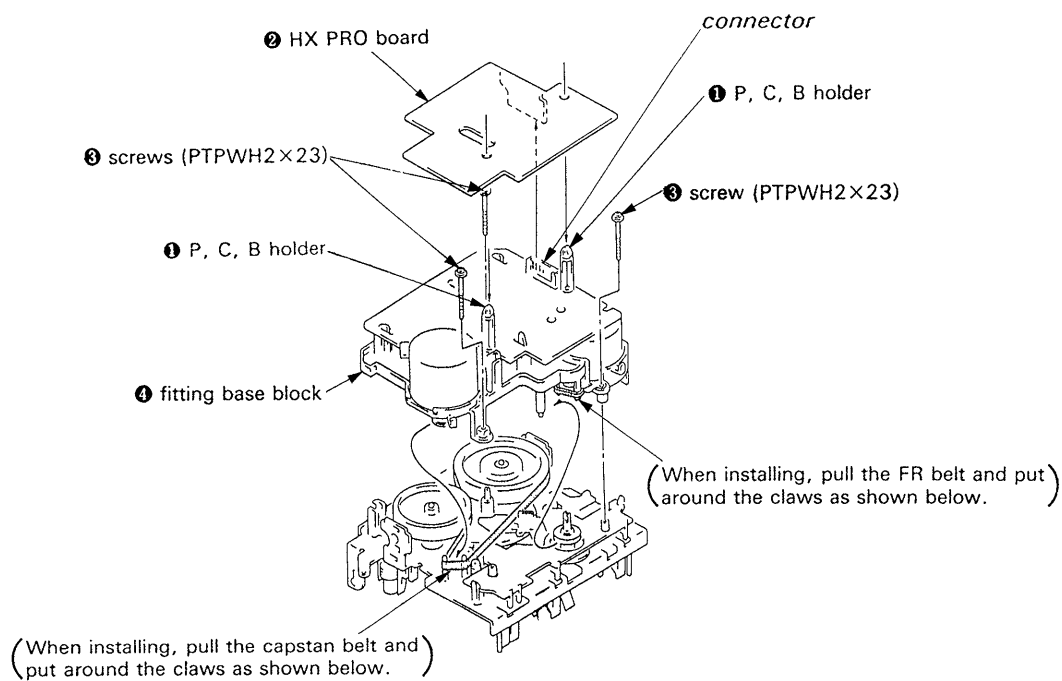
- 1 Remove the connector from audio system control board.
- 2 Push the EJECT button.



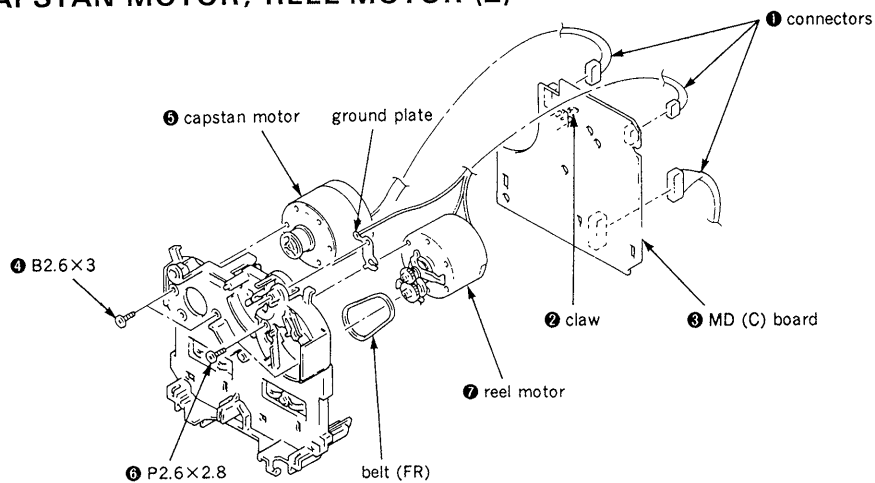
## 2-4. MECHANISM DECK (TC-WR87ES)



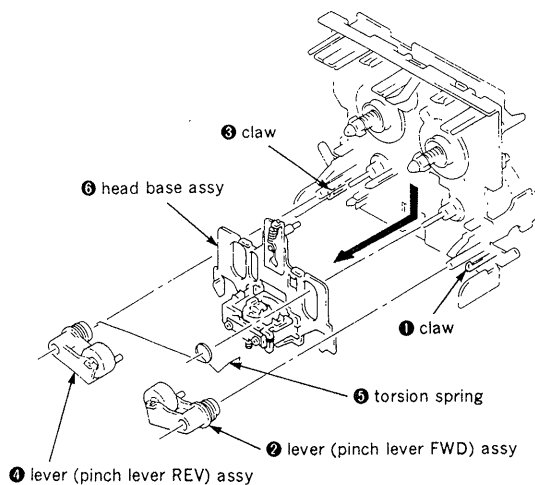
## 2-5. CAPSTAN MOTOR, REEL MOTOR (1)



## 2-6. CAPSTAN MOTOR, REEL MOTOR (2)



## 2-7. HEAD, PINCH ROLLER



## SECTION 3 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.  
 (Head demagnetizer do not approach for the erase head.)
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

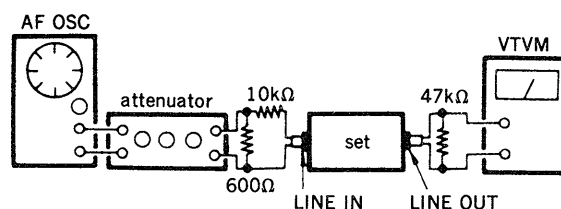
| Torque                  | Torque meter | Meter reading                           |
|-------------------------|--------------|-----------------------------------------|
| Forward                 | CQ-102C      | 30 to 65g·cm<br>(0.42 to 0.90 oz·inch)  |
| Forward<br>back tension | CQ-102C      | 1 to 6g·cm<br>(0.014 to 0.08 oz·inch)   |
| Reverse                 | CQ-102RC     | 30 to 65g·cm<br>(0.42 to 0.90 oz·inch)  |
| Reverse<br>back tension | CQ-102RC     | 1 to 6g·cm<br>(0.014 to 0.08 oz·inch)   |
| Forward,<br>Reverse     | CQ-201B      | 70 to 120g·cm<br>(0.98 to 1.67 oz·inch) |

## SECTION 4 ELECTRICAL ADJUSTMENTS

### PRECAUTION

1. The adjustment should be performed in the publication.  
 (Be sure to make playback adjustment at first.)
2. The adjustment and measurement should be performed for both L-CH and R-CH.
  - Switch position  
 DOLBY NR switch : OFF  
 DIR MODE switch : ⇌
  - Standard record position  
 Deliver the standard input signal level to input jack and set the REC LEVEL control to obtain the standard output signal level as follows.

—Record Mode—



### Standard Input Level

| Input terminal     | LINE IN       |
|--------------------|---------------|
| source impedance   | 10kΩ          |
| input signal level | 0.25V (−10dB) |

### Standard Output Level

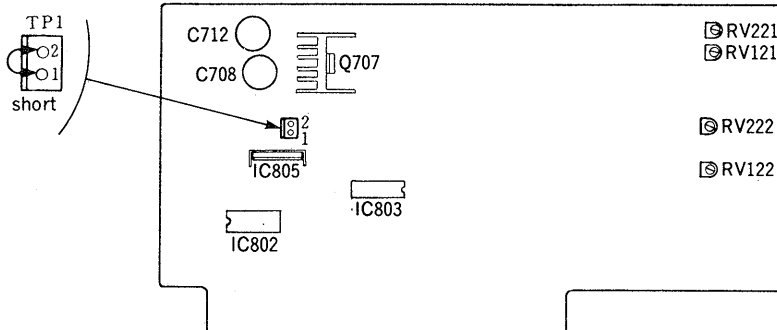
| Output terminal     | LINE OUT     |
|---------------------|--------------|
| load impedance      | 47kΩ         |
| output signal level | 0.44V (−5dB) |

### Test Tape

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

3. When to electrical adjustments, short the connector TP1 (test mode).

audio system control board —component side—

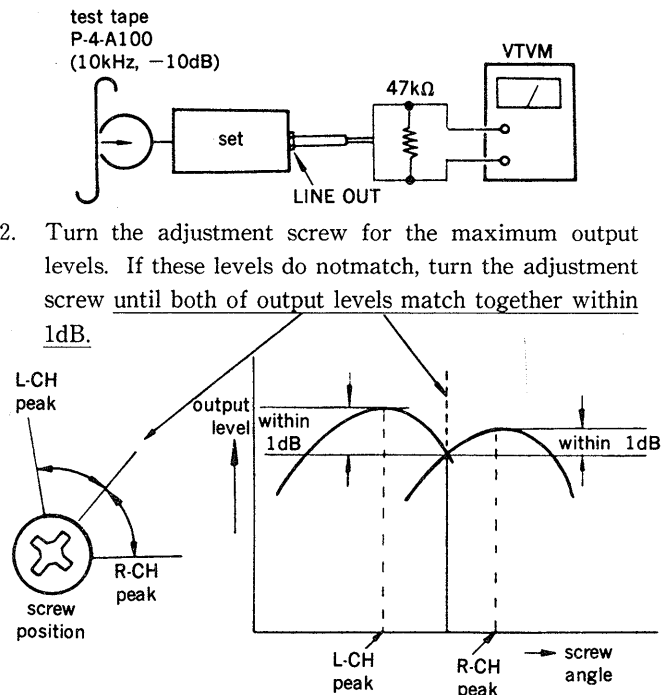


## Record/Playback/Erase Head Azimuth Adjustment

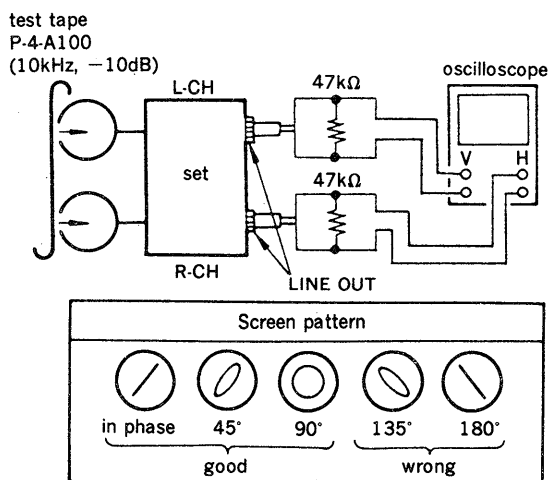
### DECK A DECK B

#### Procedure :

1. Reverse Playback Mode

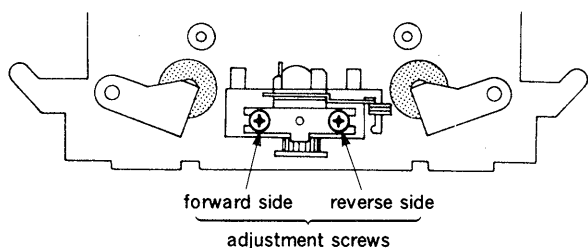


3. Playback Mode



4. Change the forward 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/erase head —

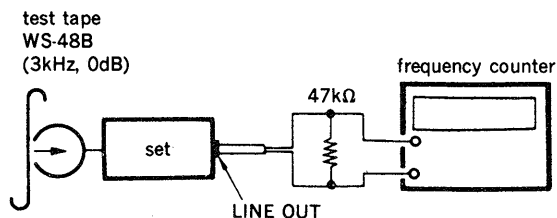


## Tape Speed Adjustment DECK A DECK B

Perform high speed adjustment before normal speed adjustment.

#### Procedure :

—Forward Playback Mode—



(high speed adjustment)

1. Keep on pressing the SYNCHRO DUBBING HIGH SPEED switch.
2. Confirm that the frequency counter reading becomes within adjustment limits of  $6,000 \pm 60\text{Hz}$  on both of deck A and deck B.
3. If the adjustment limits are not satisfied, adjust each RV72 so that the frequency counter reading becomes within adjustment limits of  $6,000 \pm 30\text{Hz}$  on both of deck A and deck B.
4. Change the reverse playback mode and repeat the steps 1 to 3.

(normal speed adjustment)

5. Keep on pressing the SYNCHRO DUBBING NORM SPEED switch.
6. Confirm that the frequency counter reading becomes within adjustment limits of  $3,000 \pm 30\text{Hz}$  on both of deck A and deck B.
7. If the adjustment limits are not satisfied, adjust each RV71 so that the frequency counter reading becomes within adjustment limits of  $3,000 \pm 15\text{Hz}$  on both of deck A and deck B.
8. Change the reverse playback mode and repeat the steps 5 to 7.

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%.

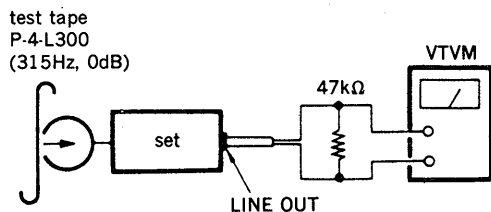
**Adjustment Location :** MD (C) board (deck A, deck B)

(See page 10)

## Playback Level Adjustment DECK A DECK B

### Procedure :

—Forward Playback Mode—



Adjust each RV11 (L-CH) and RV21 (R-CH) so that the VTVM reading becomes within adjustment limits below on both of deck A and deck B.

### Adjustment Limits :

LINE OUT level:  $-15 \pm 0.5\text{dB}$  (0.130 to 0.146V)

Level difference between channels: within 0.5dB

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

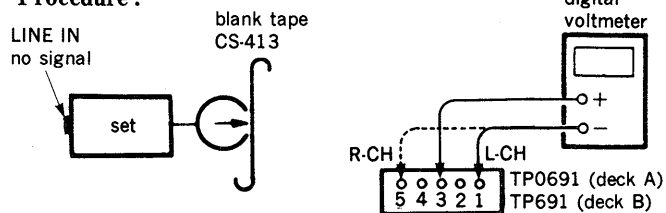
**Adjustment Location :** MD(C) board (deck A, deck B)  
(See page 10)

## Bias Consumption Current Adjustment

### DECK A DECK B

This adjustment should be performed when replacing the head assy or step-up transformer (T0391, 0491 (deck A) and T391, 491 (deck B)), or DOLBY HX-PRO IC (IC0691 (deck A) and IC691 (deck B)).

### Procedure :



(deck A)

1. Connect the digital voltmeter to test point TP0691.
2. Set RV0391 (L-CH) and RV0491 (R-CH) to mechanical center.
3. Set to forward record mode.
4. Adjust T0391 (L-CH) and T0491 (R-CH) so that the digital voltmeter reading becomes minimum.

(deck B)

5. Similarly, connect the digital voltmeter to test point TP691.
6. Set RV391 (L-CH) and RV491 (R-CH) to mechanical center.
7. Set to forward record mode.
8. Adjust T391 (L-CH) and T491 (R-CH) so that the digital voltmeter reading becomes minimum.

**Adjustment Location :** HX-PRO board (A) (deck A),  
HX-PRO board (B) (deck B)  
(See page 10)

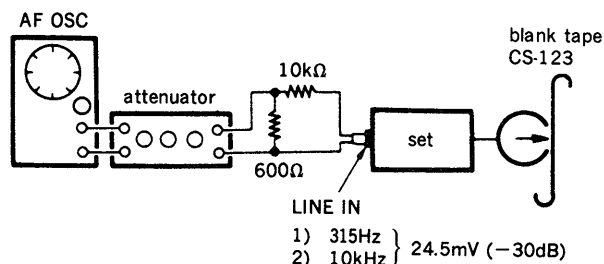
## Record Bias Adjustment DECK A DECK B

### Setting :

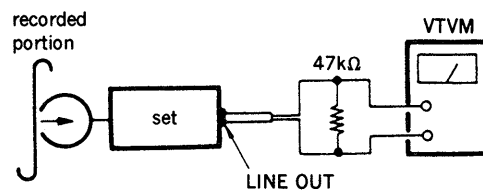
REC LEVEL control: standard record position (Refer to page 7.)

### Procedure :

1. Record Mode



2. Playback Mode



(deck A)

3. Playback the signal recorded in step 1, and confirm that the 10kHz playback output level is VTVM reading becomes within adjustment limits below relative to the 315Hz output.
4. If the adjustment limits are not satisfied, adjust each RV0391 (L-CH) and RV0491 (R-CH) so that the VTVM reading becomes within adjustment limits on next page.

(deck B)

5. Similarly, playback the signal recorded in step 1, and confirm that the 10kHz playback output level is VTVM reading becomes within adjustment limits below relative to the 315Hz output.
6. If the adjustment limits are not satisfied, adjust each RV391 (L-CH) and RV491 (R-CH) so that the VTVM reading becomes within adjustment limits on next page.

### Adjustment Limits :

10kHz playback output

relative to the 315Hz output :  $0 \pm 0.5\text{dB}$

**Adjustment Location :** HX-PRO board(A) (deck A)

HX-PRO board(B) (deck B)

### Record Level Adjustment

**DECK A**

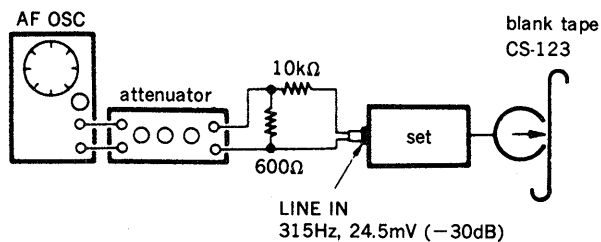
**DECK B**

#### Setting :

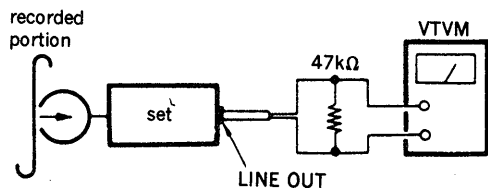
REC LEVEL control : standard record position (Refer to page 7.)

#### Procedure :

##### 1. Record Mode



##### 2. Playback Mode



(deck A)

3. Playback the signal recorded in step 1, and confirm that the 10kHz playback output level is VTVM reading becomes within adjustment limits below relative to the 315Hz output.
4. If the adjustment limits are not satisfied, adjust each RV121 (L-CH) and RV221 (R-CH) so that the VTVM reading becomes within adjustment limits below.

(deck B)

5. Similarly, playback the signal recorded in step 1, and confirm that the 10kHz playback output level is VTVM reading becomes within adjustment limits below relative to the 315Hz output.
6. If the adjustment limits are not satisfied, adjust each RV122 (L-CH) and RV222 (R-CH) so that the VTVM reading becomes within adjustment limits below.

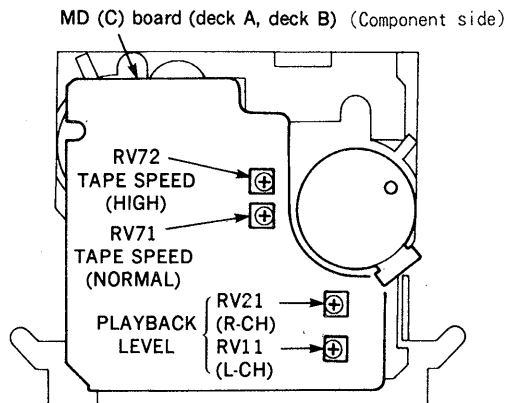
### Adjustment Limits :

315Hz playback output level :  $-25 \pm 0.5\text{dB}$  (42 to 46mV)

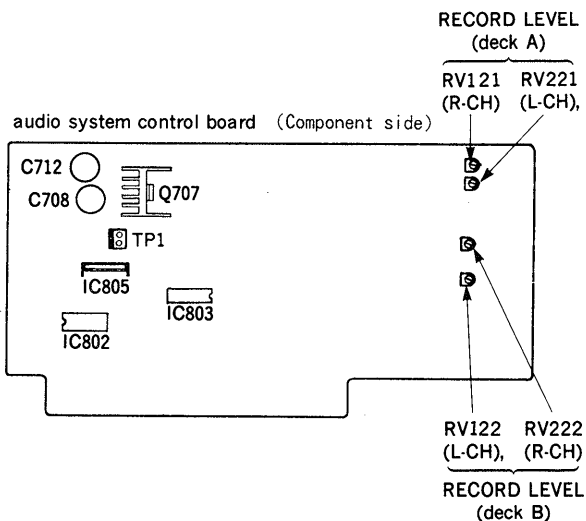
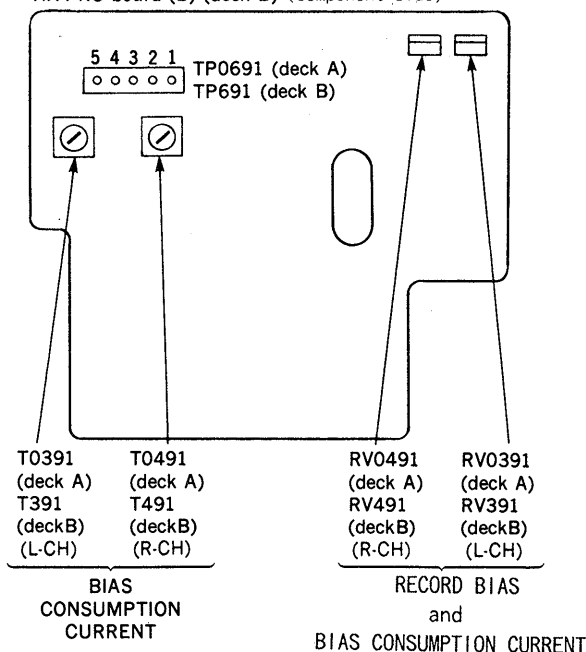
**Adjustment Location :** audio system control board

**Note :** After adjustment, open the connector TP1.

### —Adjustment Parts Location Diagrams—



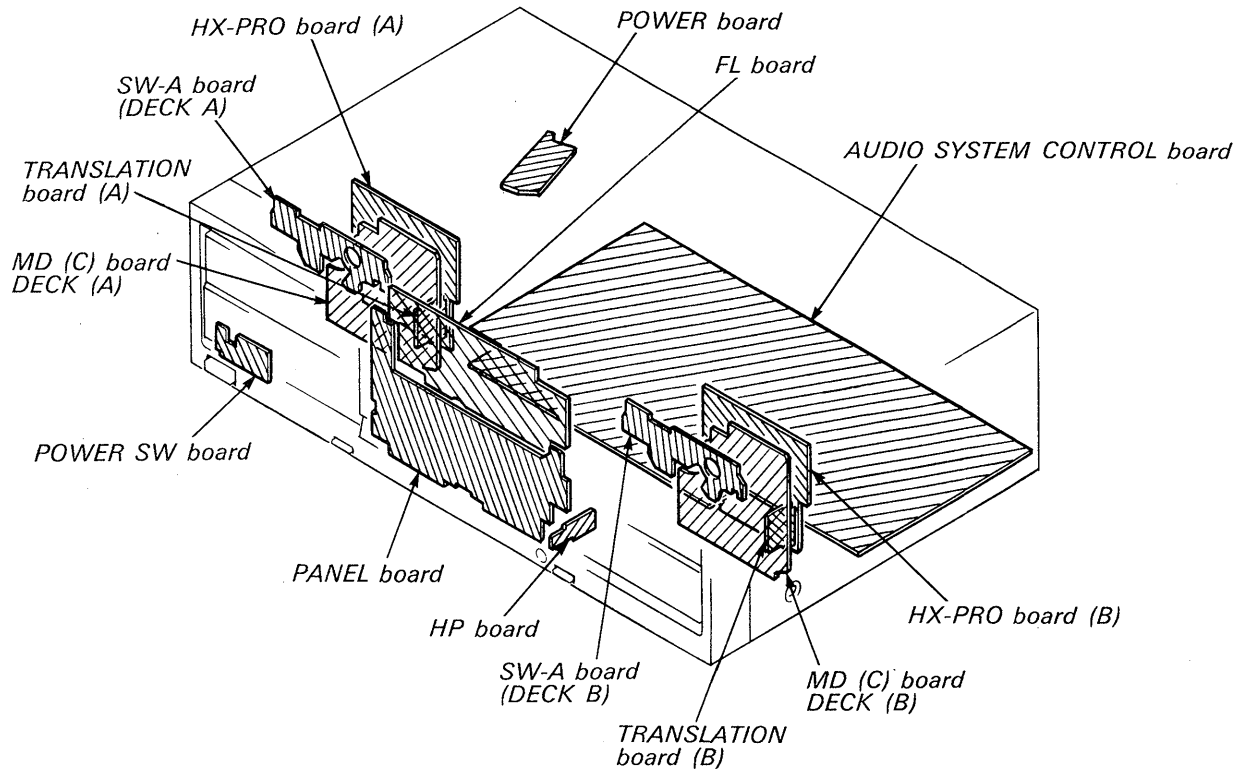
HX-PRO board (A) (deck A),  
HX-PRO board (B) (deck B) (Component side)



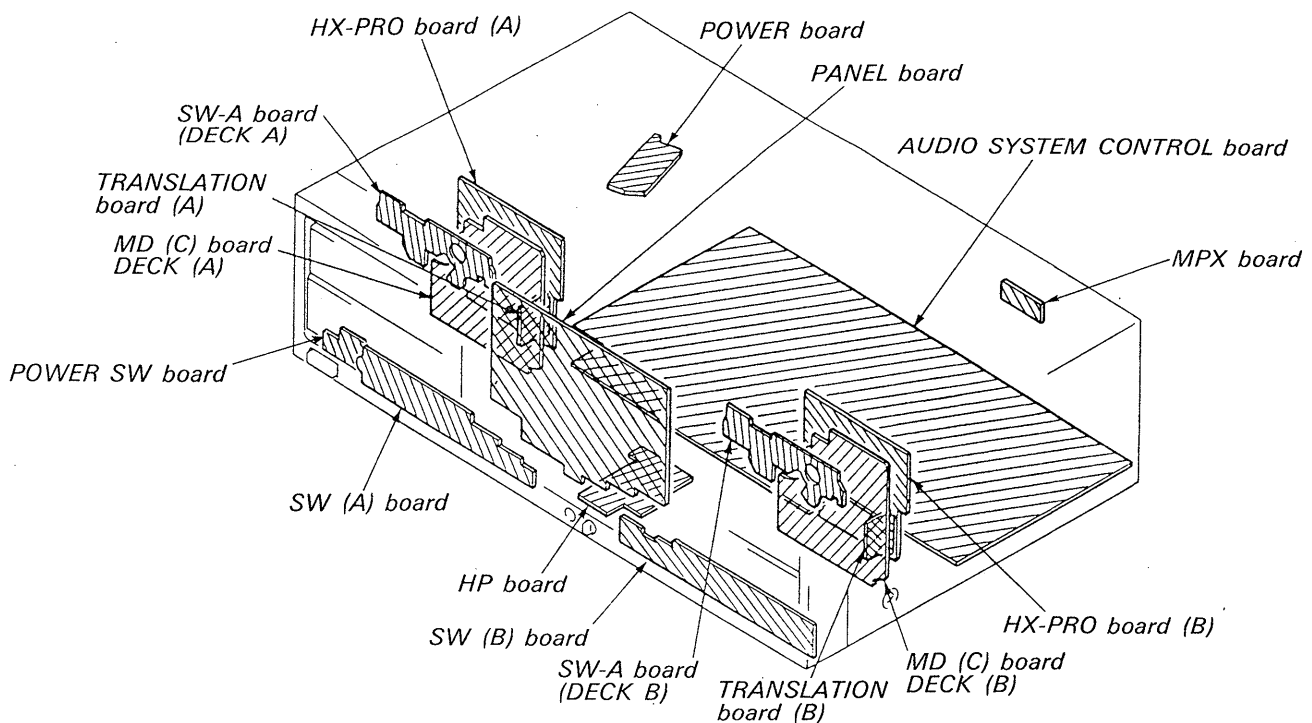
## SECTION 5 DIAGRAMS

### 5-1. CIRCUIT BOARDS LOCATION

(TC-WR775)



(TC-WR87ES)

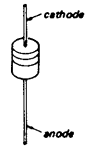


## 5-2. SEMICONDUCTOR LEAD LAYOUTS

DTA114ES  
DTA144ES  
DTC114ES  
DTC143TS  
DTC144ES  
DTC144WS  
2SC2603-EF  
2SD1012-FG



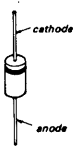
HZS6A1L  
HZS7A1L  
HZS9A2L  
UZL-11L2  
UZL-7H1  
1SS120



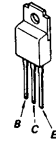
2SA1317-S  
2SA1317-STU  
2SB1013-3



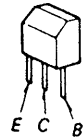
10E2N



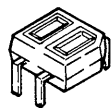
2SB1370-EF



2SD1312-K



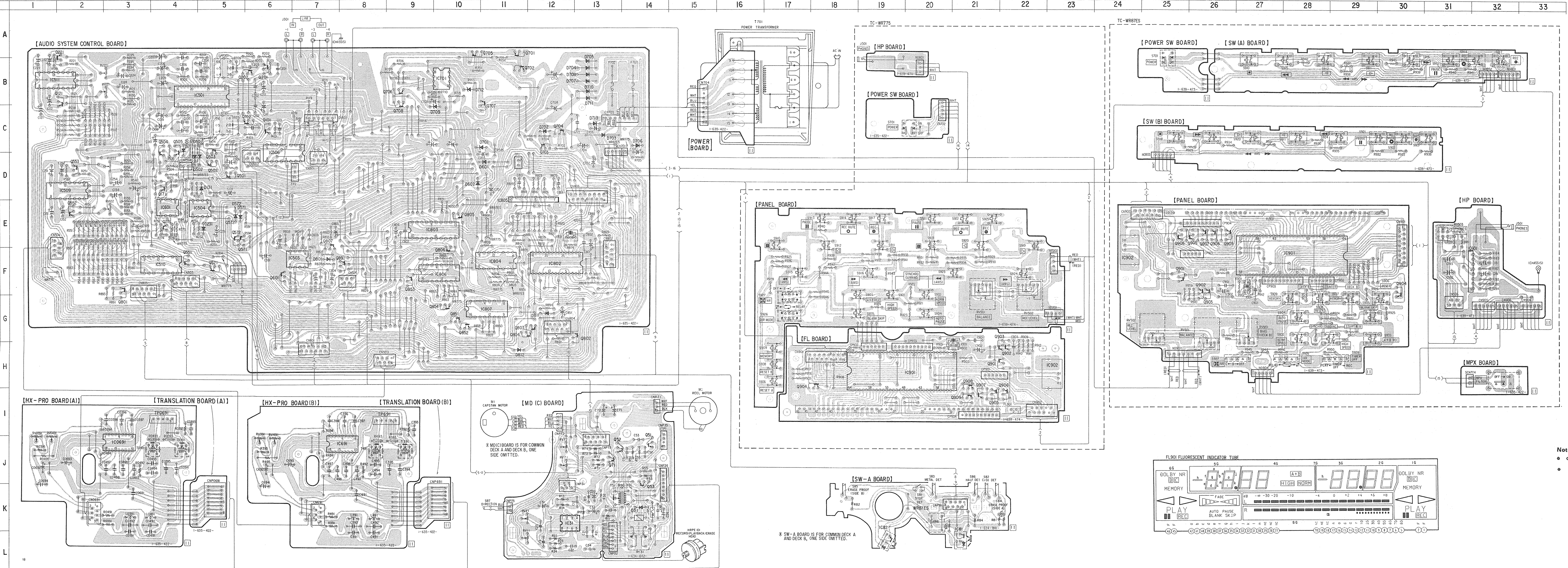
NJL5165K-B



● Semiconductor Location

| Ref. No.  | Location | Ref. No. | Location |
|-----------|----------|----------|----------|
| D31       | K-14     | Q121     | B-2      |
| D131      | D-5      | Q171     | D-4      |
| D231      | E-5      | Q201     | B-6      |
| D501(*1)  | D-4      | Q202     | B-6      |
| D502      | D-5      | Q221     | B-2      |
| D503      | C-4      | Q271     | E-4      |
| D571      | E-5      | Q501     | D-5      |
| D572      | E-5      | Q502     | D-5      |
| D601      | D-11     | Q503     | D-5      |
| D602      | D-10     | Q504     | C-4      |
| D701      | C-11     | Q505     | C-4      |
| D702      | C-12     | Q521     | F-5      |
| D703      | C-13     | Q551     | F-4      |
| D704      | B-13     | Q552     | E-2      |
| D705      | B-13     | Q553     | D-2      |
| D706      | C-14     | Q571     | E-5      |
| D707      | B-13     | Q572     | E-5      |
| D708      | B-13     | Q601     | F-6      |
| D709      | C-10     | Q701     | A-11     |
| D710      | B-13     | Q702     | B-11     |
| D711      | B-13     | Q703     | C-12     |
| D712      | B-10     | Q704     | C-12     |
| D713      | C-13     | Q705     | A-10     |
| D801      | F-7      | Q706     | B-9      |
| D811      | G-12     | Q707     | B-11     |
| D812      | H-11     | Q708     | B-9      |
| IC31      | K-12     | Q801     | F-3      |
| IC81      | L-21     | Q802     | G-13     |
| IC82(*2)  | L-19     | Q803     | G-12     |
| IC501     | B-5      | Q804     | G-12     |
| IC503     | F-7      | Q805     | E-10     |
| IC504     | E-5      | Q806     | F-10     |
| IC506     | D-6      | Q807     | F-7      |
| IC509     | D-2      | Q851     | G-10     |
| IC510     | F-4      | Q852     | G-10     |
| IC511     | B-1      | Q853     | F-9      |
| IC601(*1) | E-4      | Q854     | G-10     |
| IC601(*2) | F-32     | Q891     | F-8      |
| IC691     | J-8      | Q901(*1) | H-21     |
| IC701     | B-10     | Q901(*2) | F-25     |
| IC802     | F-12     | Q902(*1) | H-22     |
| IC803     | E-9      | Q902(*2) | F-26     |
| IC804     | F-11     | Q903(*1) | H-22     |
| IC805     | D-12     | Q903(*2) | F-26     |
| IC806     | F-10     | Q904(*1) | H-18     |
| IC807     | G-11     | Q904(*2) | F-30     |
| IC901(*1) | H-19     | Q905(*1) | I-21     |
| IC901(*2) | F-28     | Q905(*2) | E-26     |
| IC902(*1) | H-23     | Q906(*1) | I-22     |
| IC902(*2) | F-24     | Q906(*2) | E-25     |
| IC0691    | J-3      | Q907(*1) | I-21     |
|           |          | Q907(*2) | E-26     |
|           |          | Q908(*1) | H-21     |
| Q51       | J-14     | Q908(*2) | E-26     |
| Q52       | J-13     | Q909(*1) | I-21     |
| Q53       | K-14     | Q909(*2) | E-26     |
| Q71       | J-13     |          |          |
| Q101      | C-6      |          |          |
| Q102      | C-6      |          |          |

\*1 : Used on TC-WR775 only.  
\*2 : Used on TC-WR87ES only.

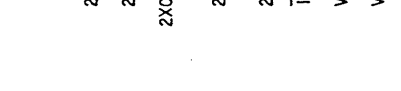


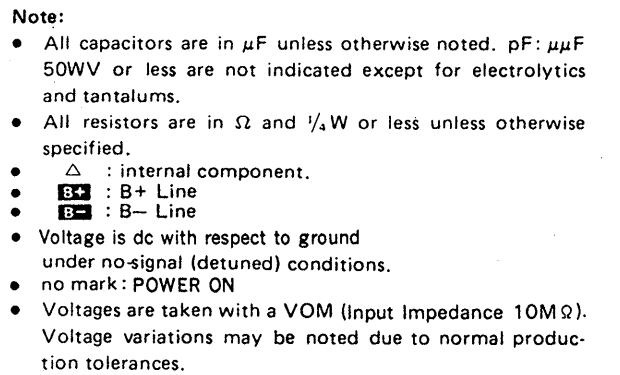


The image contains two pinout diagrams. The top diagram is for IC506 and MC14053BCP, showing a 16-pin package with pins 1 through 16 arranged in two columns. The bottom diagram is for IC510 and MC14051BCP, showing a 16-pin package with pins 1 through 16 arranged in two columns. The pin functions are labeled next to each pin number.



IC806, 807 MC14052BCP





## SECTION 6 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.

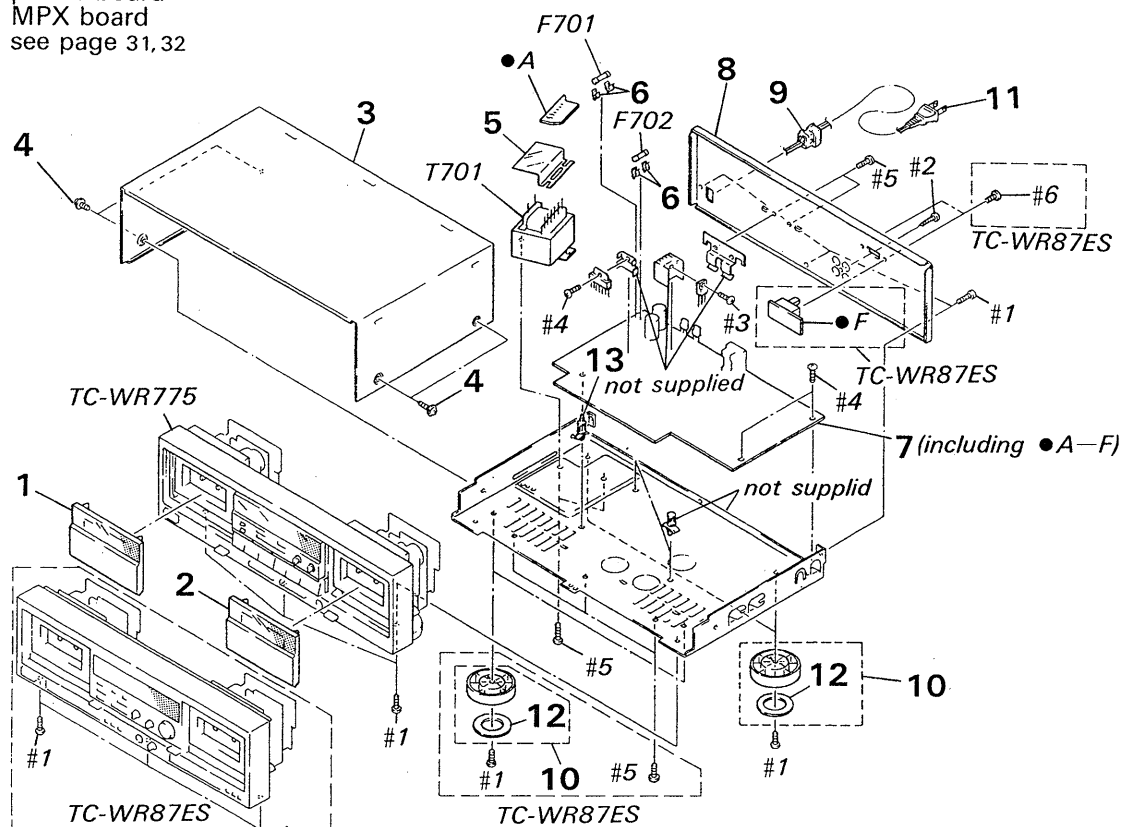
- Color Indication of Appearance Parts  
Example:  
KNOB, BALANCE(WHITE)...(RED)  
Part's Color Cabinet's Color
- Hardware (#mark) list is given in the last of this parts list.
- WR775 : TC-WR775  
WR87ES : TC-WR87ES

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.

### 6-1. CHASSIS SECTION

- A : power board
- F : MPX board
- B-F : see page 31,32

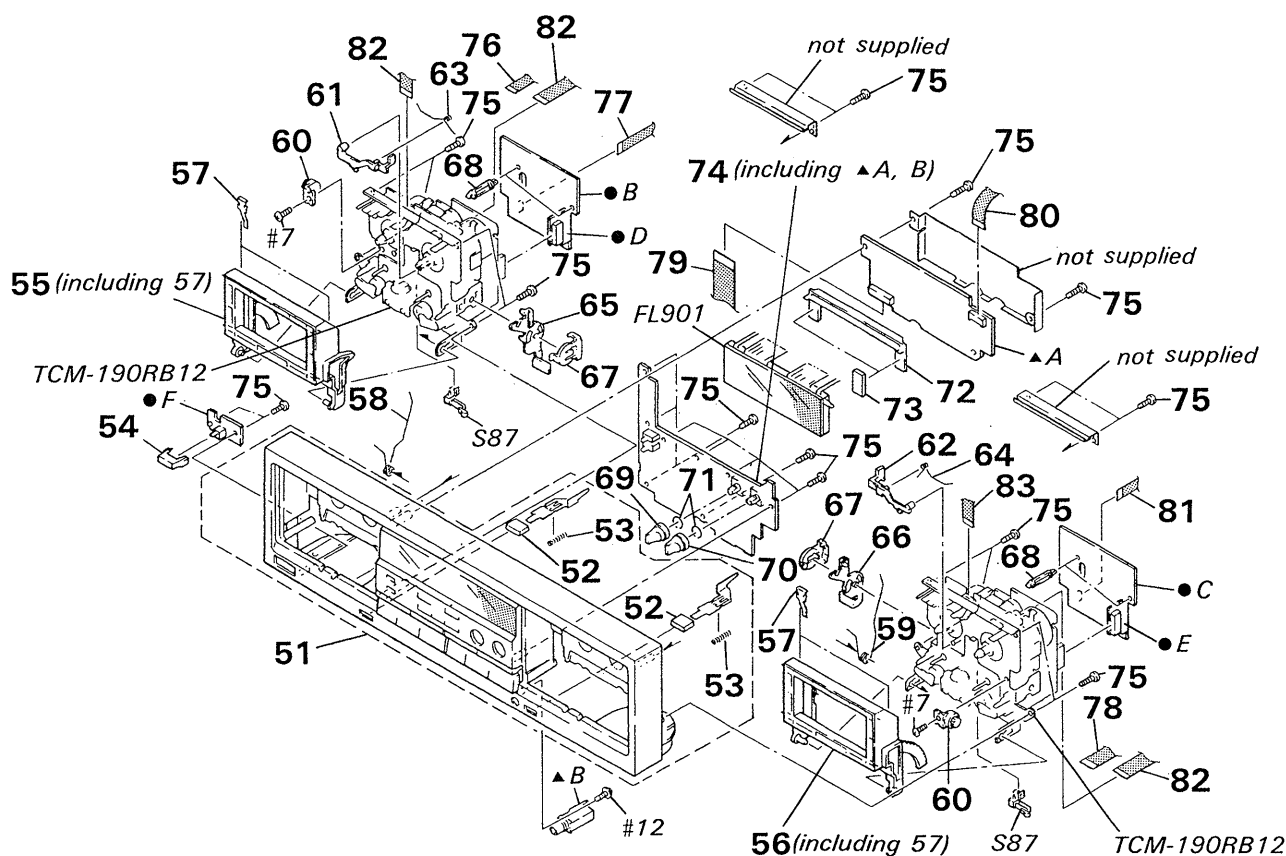


| Ref. No. | Part No.       | Description                             | Remark |
|----------|----------------|-----------------------------------------|--------|
| 1        | X-3363-194-1   | LID (A) ASSY, CASSETTE (WR87ES)         |        |
| 1        | X-3362-988-1   | LID (A) ASSY, CASSETTE (WR775)          |        |
| 2        | X-3363-193-1   | LID (B) ASSY, CASSETTE (WR87ES)         |        |
| 2        | X-3362-989-1   | LID (B) ASSY, CASSETTE (WR775)          |        |
| 3        | * 4-929-294-52 | CASE (WR87ES)                           |        |
| 3        | * 4-929-294-42 | CASE (WR775)                            |        |
| 4        | 3-704-366-01   | SCREW (CASE) (M3X8)                     |        |
| 5        | * 3-337-136-11 | COVER, TRANSFORMER SAFETY               |        |
| 6        | * 1-533-213-31 | HOLDER, FUSE                            |        |
| 7        | * A-2006-511-A | SYSTEM CONTROL BOARD, COMPLETE (WR87ES) |        |
| 7        | * A-2006-517-A | SYSTEM CONTROL BOARD, COMPLETE (WR775)  |        |

| Ref. No. | Part No.       | Description                      | Remark |
|----------|----------------|----------------------------------|--------|
| 8        | * 3-365-370-01 | PANEL, BACK (WR87ES)             |        |
| 8        | * 3-365-371-11 | PANEL, BACK (WR775)              |        |
| 9        | * 3-703-244-00 | BUSHING (2104), CORD (WR87ES)    |        |
| 9        | * 3-703-571-11 | BUSHING (S) (4516), CORD (WR775) |        |
| 10       | X-3304-938-2   | FOOT ASSY (WR87ES)               |        |
| 10       | X-4885-950-1   | FOOT ASSY (WR775)                |        |
| 11       | △ 1-555-465-00 | CORD, POWER (WR87ES)             |        |
| 11       | △ 1-551-506-XX | CORD, POWER (WR775)              |        |
| 12       | 4-923-836-11   | CUSHION                          |        |
| 13       | * 3-346-265-11 | HOLDER, PC BOARD                 |        |
| F701     | △ 1-532-742-11 | FUSE, GLASS TUBE (1.6A/125V)     |        |
| F702     | △ 1-532-742-11 | FUSE, GLASS TUBE (1.6A/125V)     |        |
| T701     | △ 1-450-431-11 | TRANSFORMER, POWER               |        |

## 6-2. FRONT PANEL SECTION (TC-WR775)

- B : HX-PRO board (A)
- C : HX-PRO board (B)
- D : translation board (A)
- E : translation board (B)
- F : power SW board
- ▲ A : FL board
- ▲ B : HP board

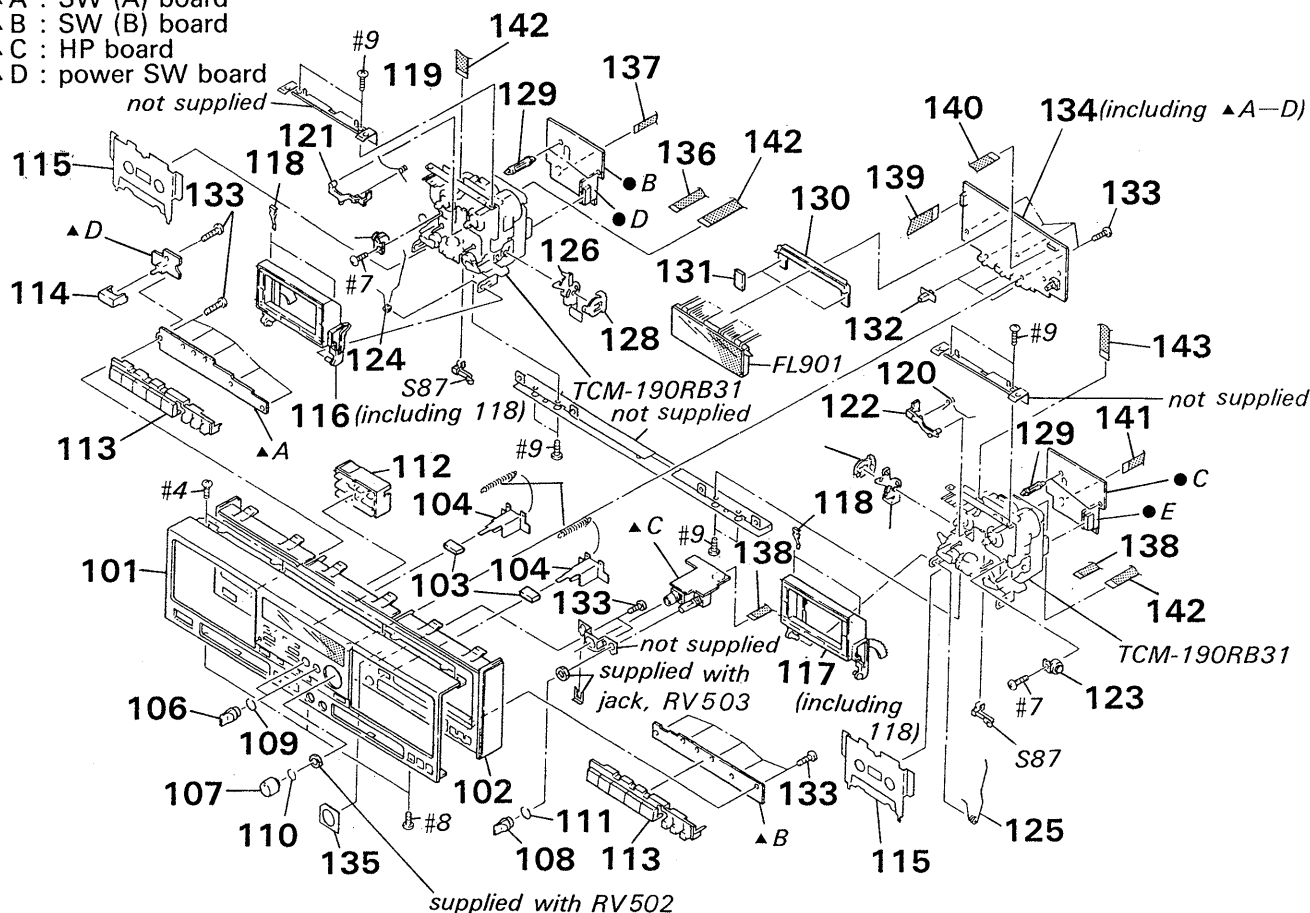


| Ref. No. | Part No.       | Description                 | Remark |
|----------|----------------|-----------------------------|--------|
| 51       | X-3363-192-1   | PANEL ASSY, FRONT (WR775)   |        |
| 52       | 3-340-188-11   | BUTTON (EJECT) (WR775)      |        |
| 53       | 3-363-762-01   | SPRING, COMPRESSION (WR775) |        |
| 54       | 3-354-932-01   | BUTTON (POWER)              |        |
| 55       | X-3340-195-1   | HOLDER (R) ASSY, CASSETTE   |        |
| 56       | X-3340-194-1   | HOLDER (L) ASSY, CASSETTE   |        |
| 57       | 3-308-823-11   | SPRING                      |        |
| 58       | 3-354-960-01   | SPRING (LOADING R), TORSION |        |
| 59       | 3-354-959-01   | SPRING (LOADING L), TORSION |        |
| 60       | 3-354-963-01   | DAMPER                      |        |
| 61       | 3-354-956-01   | LEVER (EJ SAFTY LEVER R)    |        |
| 62       | 3-354-955-01   | LEVER (EJ SAFTY LEVER L)    |        |
| 63       | 3-354-962-01   | SPRING (EJ SAFTY SPRING R)  |        |
| 64       | 3-354-961-01   | SPRING (EJ SAFTY SPRING L)  |        |
| 65       | * 3-354-954-01 | LEVER (LOCK LEVER R)        |        |
| 66       | * 3-354-953-01 | LEVER (LOCK LEVER L)        |        |
| 67       | 3-354-957-01   | JOINT (LOCK LEVER)          |        |

| Ref. No. | Part No.       | Description                   | Remark |
|----------|----------------|-------------------------------|--------|
| 68       | * 3-682-419-21 | HOLDER, P. C. B               |        |
| 69       | 3-367-431-01   | KNOB (BAL) (WR775)            |        |
| 70       | 3-367-431-11   | KNOB (REC) (WR775)            |        |
| 71       | 3-356-957-01   | SPRING (WR775)                |        |
| 72       | 3-365-420-01   | HOLDER, FL TUBE               |        |
| 73       | * 9-911-844-XX | CUSHION (WR775)               |        |
| 74       | * A-2006-518-A | PANEL BOARD, COMPLETE (WR775) |        |
| 75       | 4-928-635-01   | SCREW, +BV (2.6X8) TAPPING    |        |
| 76       | * 1-575-847-11 | WIRE, FLAT TYPE (5 CORE)      |        |
| 77       | * 1-575-851-11 | WIRE, FLAT TYPE (7 CORE)      |        |
| 78       | * 1-575-848-11 | WIRE, FLAT TYPE (5 CORE)      |        |
| 79       | * 1-575-853-11 | WIRE, FLAT TYPE (15 CORE)     |        |
| 80       | 1-534-517-00   | WIRE, FLAT TYPE (11 CORE)     |        |
| 81       | * 1-575-780-11 | WIRE, FLAT TYPE (7 CORE)      |        |
| 82       | * 1-575-850-11 | WIRE, FLAT TYPE (9 CORE)      |        |
| 83       | * 1-575-781-11 | WIRE, FLAT TYPE (9 CORE)      |        |
| FL901    | 1-519-594-11   | INDICATOR TUBE, FLUORESCENT   |        |
| S87      | 1-572-393-11   | SWITCH, LEAF (DIRECTION)      |        |

### 6-3. FRONT PANEL SECTION (TC-WR87ES)

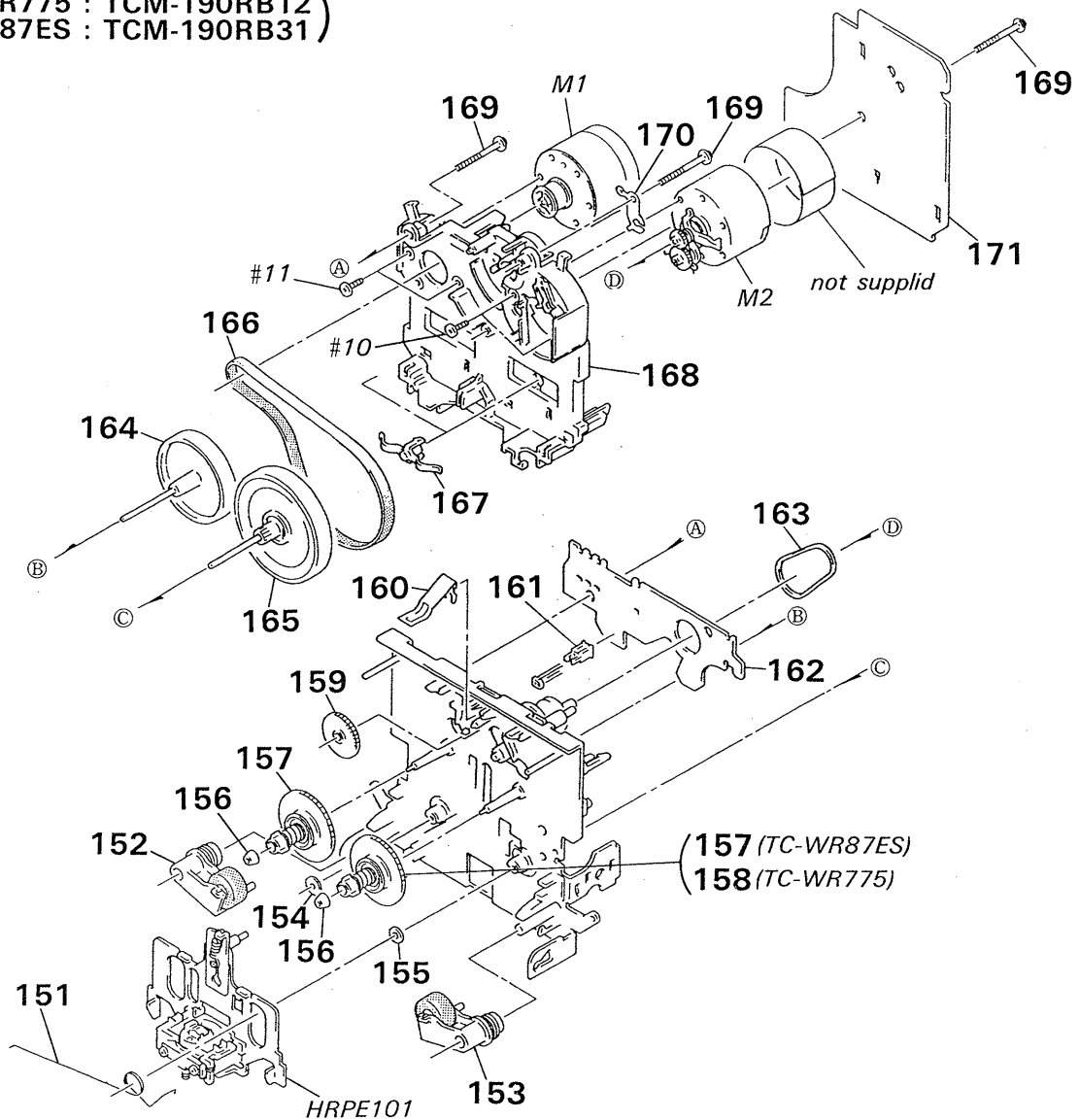
- B : HX-PRO board (A)
- C : HX-PRO board (B)
- D : translation board (A)
- E : translation board (B)
- F : power SW board
- ▲ A : SW (A) board
- ▲ B : SW (B) board
- ▲ C : HP board
- ▲ D : power SW board



| Ref. No. | Part No.       | Description                       | Remark | Ref. No. | Part No.       | Description                      | Remark |
|----------|----------------|-----------------------------------|--------|----------|----------------|----------------------------------|--------|
| 101      | A-2003-820-A   | PANEL ASSY, FRONT (WR87ES)        |        | 123      | 3-354-963-01   | DAMPER                           |        |
| 102      | 3-354-916-12   | PANEL (BASE) (WR87ES)             |        | 124      | 3-354-960-01   | SPRING (LOADING R), TORSION      |        |
| 103      | 3-359-907-01   | BUTTON (EJECT) (WR87ES)           |        | 125      | 3-354-959-01   | SPRING (LOADING L), TORSION      |        |
| 104      | * 3-359-935-01 | LEVER (EJECT) (WR87ES)            |        | 126      | * 3-354-954-01 | LEVER (LOCK LEVER R)             |        |
| 105      | 3-362-234-01   | SPRING, TENSION (WR87ES)          |        | 127      | * 3-354-953-01 | LEVER (LOCK LEVER L)             |        |
| 106      | 3-354-931-11   | KNOB (DIA. 10) (WR87ES)           |        | 128      | 3-354-957-01   | JOINT (LOCK LEVER)               |        |
| 107      | 3-359-932-01   | KNOB (REC) (WR87ES)               |        | 129      | * 3-682-419-21 | HOLDER, P. C. B                  |        |
| 108      | 3-354-931-01   | KNOB (DIA. 10) (WR87ES)           |        | 130      | 3-365-420-01   | HOLDER, FL TUBE                  |        |
| 109      | 3-354-981-01   | SPRING (SUS), RING (WR87ES)       |        | 131      | 9-911-844-XX   | CUSHION (WR87ES)                 |        |
| 110      | 3-362-235-01   | SPRING (REC LEVEL), RING (WR87ES) |        | 132      | 4-922-518-01   | KNOB (TIMER) (WR87ES)            |        |
| 111      | 3-356-935-01   | SPRING (WR87ES)                   |        | 133      | 4-928-635-01   | SCREW, +BV (2.6X8) TAPPING       |        |
| 112      | 3-354-938-21   | BUTTON (B) (WR87ES)               |        | 134      | * A-2006-512-A | PANEL BOARD, COMPLETE (WR87ES)   |        |
| 113      | 3-365-419-01   | BUTTON (A) (WR87ES)               |        | 135      | 3-354-923-01   | PLATE (VOL), ORNAMENTAL (WR87ES) |        |
| 114      | 3-354-932-01   | BUTTON (POWER)                    |        | 136      | * 1-575-847-11 | WIRE, FLAT TYPE (5 CORE)         |        |
| 115      | X-3346-313-1   | RETAINER ASSY, CASSETTE (WR87ES)  |        | 137      | * 1-575-851-11 | WIRE, FLAT TYPE (7 CORE)         |        |
| 116      | X-3340-195-1   | HOLDER (R) ASSY, CASSETTE         |        | 138      | * 1-575-848-11 | WIRE, FLAT TYPE (5 CORE)         |        |
| 117      | X-3340-194-1   | HOLDER (L) ASSY, CASSETTE         |        | 139      | * 1-575-853-11 | WIRE, FLAT TYPE (15 CORE)        |        |
| 118      | 3-308-823-11   | SPRING                            |        | 140      | 1-534-517-00   | WIRE, FLAT TYPE (11 CORE)        |        |
| 119      | 3-354-962-01   | SPRING (EJ SAFTY SPRING R)        |        | 141      | * 1-575-780-11 | WIRE, FLAT TYPE (7 CORE)         |        |
| 120      | 3-354-961-01   | SPRING (EJ SAFTY SPRING L)        |        | 142      | * 1-575-850-11 | WIRE, FLAT TYPE (9 CORE)         |        |
| 121      | 3-354-956-01   | LEVER (EJ SAFTY LEVER R)          |        | 143      | * 1-575-781-11 | WIRE, FLAT TYPE (9 CORE)         |        |
| 122      | 3-354-955-01   | LEVER (EJ SAFTY LEVER L)          |        | FL901    | 1-519-594-11   | INDICATOR TUBE, FLUORESCENT      |        |
|          |                |                                   |        | S87      | 1-572-393-11   | SWITCH, LEAF (DIRECTION)         |        |

## 6-4. MECHANISM SECTION-1

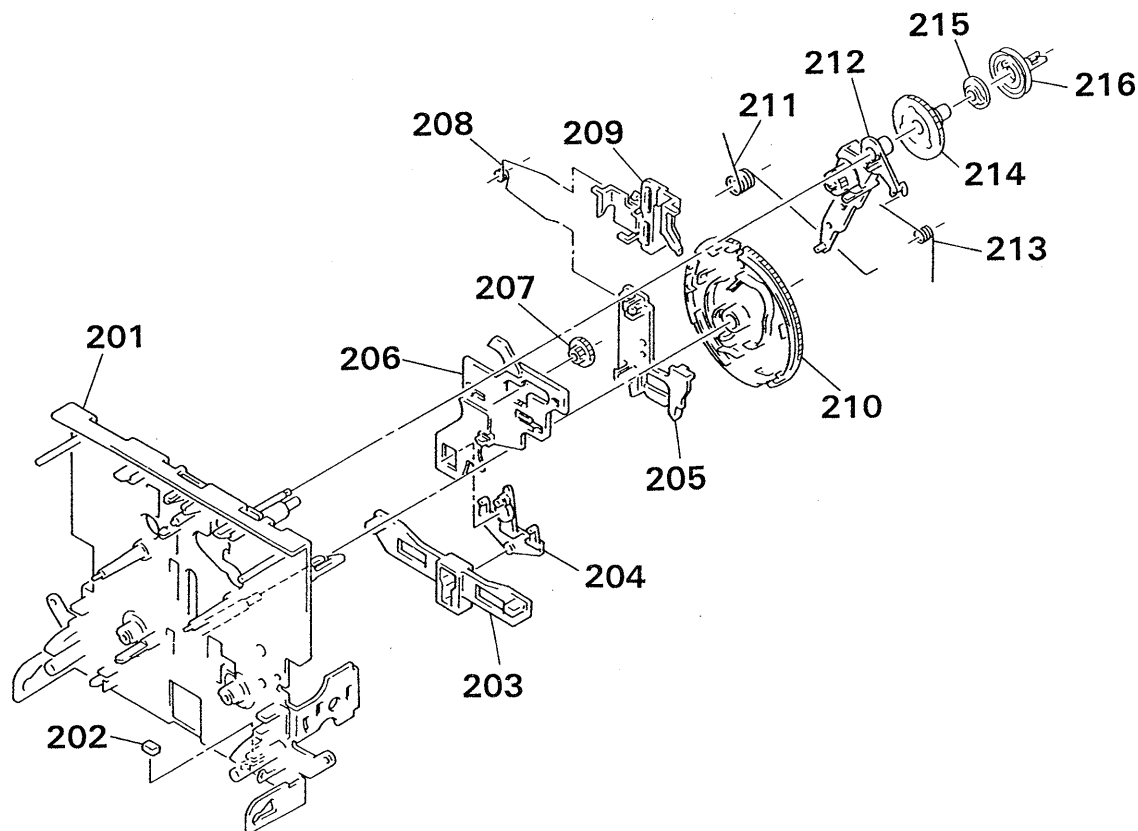
( TC-WR775 : TCM-190RB12 )  
 ( TC-WR87ES : TCM-190RB31 )



| Ref. No. | Part No.       | Description                      | Remark | Ref. No. | Part No.       | Description                             | Remark |
|----------|----------------|----------------------------------|--------|----------|----------------|-----------------------------------------|--------|
| 151      | 3-359-455-01   | SPRING, TORSION                  |        | 164      | X-3359-410-1   | FLYWHEEL (REV) ASSY                     |        |
| 152      | X-3359-409-1   | LEVER (PINCH LEVER REV) ASSY     |        | 165      | X-3359-406-1   | FLYWHEEL (FWD) COMPLETE ASSY            |        |
| 153      | X-3359-408-1   | LEVER (PINCH LEVER FWD) ASSY     |        | 166      | 3-359-417-01   | BELT (FLAT), CAPSTAN                    |        |
| 154      | 3-356-714-01   | WASHER                           |        | 167      | 3-575-321-00   | RETAINER, THRUST, CAPSTAN               |        |
| 155      | 3-356-713-01   | WASHER                           |        | 168      | * 3-359-436-01 | BASE (THRUST RETAINER), FITTING         |        |
| 156      | 3-362-308-01   | CAP (REEL)                       |        | 169      | 3-359-414-01   | SCREW (+PTPWH 2X23)                     |        |
| 157      | X-3362-078-1   | TABLE ASSY (B), REEL (WR87ES)    |        | 170      | 3-359-450-01   | PLATE, GROUND                           |        |
| 158      | X-3359-404-1   | TABLE ASSY, REEL (WR775)         |        | 171      | * 1-634-842-11 | MD-C BOARD                              |        |
| 159      | 3-359-424-01   | GEAR (REV GEAR)                  |        | HRPE101  | A-2003-420-A   | BASE ASSY, HEAD (REC/PB/ERASE) (WR87ES) |        |
| 160      | 3-359-430-01   | SPRING (CASSETTE RETAINER), LEAF |        | HRPE101  | A-2003-477-A   | BASE ASSY, HEAD (REC/PB/ERASE) (WR775)  |        |
| 161      | 3-343-419-01   | HOLDER (S SENSER A)              |        | M1       | X-3359-417-1   | MOTOR ASSY (CAPSTAN)                    |        |
| 162      | * 1-634-841-11 | SW-A BOARD                       |        | M2       | A-2003-474-A   | MOTOR ASSY (REEL)                       |        |
| 163      | 3-359-466-01   | BELT (FR), SQUARE                |        |          |                |                                         |        |

## 6-5. MECHANISM SECTION-2

( TC-WR775 : TCM-190RB12 )  
 ( TC-WR87ES : TCM-190RB31 )



| Ref. No. | Part No.       | Description              | Remark | Ref. No. | Part No.     | Description                      | Remark |
|----------|----------------|--------------------------|--------|----------|--------------|----------------------------------|--------|
| 201      | X-3359-415-1   | CHASSIS ASSY, MECHANICAL |        | 210      | 3-359-420-01 | GEAR (CAM GEAR)                  |        |
| 202      | 3-359-469-01   | SPACER                   |        | 211      | 3-359-456-01 | SPRING (TRIGGER SPRING), TORSION |        |
| 203      | * 3-359-425-01 | SLIDER (REVERSE SLIDER)  |        | 212      | X-3359-405-1 | LEVER (FR ARM) ASSY              |        |
| 204      | 3-359-426-01   | LEVER (REVERSE LEVER)    |        | 213      | 3-359-453-01 | SPRING (FR ARM), TORSION         |        |
| 205      | * 3-359-427-01 | SLIDER (LEVERSE SLIDER)  |        | 214      | 3-359-419-01 | GEAR (FR GEAR)                   |        |
| 206      | * 3-359-415-01 | SLIDER (TRIGGER SLIDER)  |        | 215      | 3-359-421-01 | CLUTCH (REEL DISK)               |        |
| 207      | 3-359-448-01   | GEAR (TRIGGER)           |        | 216      | 3-359-418-01 | PULLEY (FR PULLEY)               |        |
| 208      | 3-359-454-01   | SPRING, TORSION          |        |          |              |                                  |        |
| 209      | 3-359-429-01   | SLIDER (BRAKE PLATE)     |        |          |              |                                  |        |

# SECTION 7 ELECTRICAL PARTS LIST

MD-C

## 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:  $\mu$ , for example:  
uA...:  $\mu$  A..., uPA...:  $\mu$  P A...,  
uPB...:  $\mu$  P B..., uPC...:  $\mu$  P C...,  
uPD...:  $\mu$  P D...
- CAPACITORS  
uF:  $\mu$  F
- COILS  
uH:  $\mu$  H
- WR775: TC-WR775  
WR87ES: TC-WR87ES

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

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

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

| Ref. No.      | Part No.       | Description                    | Remark |
|---------------|----------------|--------------------------------|--------|
|               | 1-634-842-11   | MD-C BOARD<br>*****            |        |
| < CAPACITOR > |                |                                |        |
| C11           | 1-110-342-11   | MYLAR 390PF 5% 50V (WR775)     |        |
| C11           | 1-130-469-00   | MYLAR 680PF 5% 50V (WR87ES)    |        |
| 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 (WR775)     |        |
| C21           | 1-130-469-00   | MYLAR 680PF 5% 50V (WR87ES)    |        |
| C22           | 1-136-157-00   | FILM 0.022uF 5% 50V (WR775)    |        |
| 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           | 1-136-558-11   | FILM 0.0039uF 5% 630V (WR87ES) |        |
| C54           | 1-136-601-11   | FILM 0.01uF 5% 630V (WR775)    |        |
| C55           | 1-161-494-00   | CERAMIC 0.022uF 25V            |        |
| C56           | 1-126-157-11   | ELECT 10uF 20% 16V             |        |
| C71           | 1-124-907-11   | ELECT 10uF 20% 50V             |        |
| C72           | 1-124-907-11   | 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 |        |

| Ref. No.       | Part No.       | Description                    | Remark |
|----------------|----------------|--------------------------------|--------|
| 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-P            |        |
| Q52            | 8-729-194-57   | TRANSISTOR 2SC945-P            |        |
| Q53            | 8-729-801-84   | TRANSISTOR 2SB1013-34          |        |
| Q71            | 8-729-820-16   | TRANSISTOR 2SA1317-S           |        |
| < RESISTOR >   |                |                                |        |
| R11            | 1-247-881-00   | CARBON 120K 5% 1/4W (WR775)    |        |
| R11            | 1-249-435-11   | CARBON 33K 5% 1/4W (WR87ES)    |        |
| R12            | 1-249-404-00   | CARBON 82 5% 1/4W (WR87ES)     |        |
| R12            | 1-249-405-11   | CARBON 100 5% 1/4W (WR775)     |        |
| 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 (WR775)    |        |
| R21            | 1-249-435-11   | CARBON 33K 5% 1/4W (WR87ES)    |        |
| R22            | 1-249-404-00   | CARBON 82 5% 1/4W (WR87ES)     |        |
| R22            | 1-249-405-11   | CARBON 100 5% 1/4W (WR775)     |        |
| 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             |        |

MD-C

SW-A

PANEL

INCLUDING SW(A), SW(B), HP, POWER SW, FL

| Ref. No.                         | Part No.       | Description                      | Remark |    |                 |
|----------------------------------|----------------|----------------------------------|--------|----|-----------------|
| R51                              | 1-249-437-11   | CARBON                           | 47K    | 5% | 1/4W (WR87ES)   |
| R51                              | 1-249-441-11   | CARBON                           | 100K   | 5% | 1/4W (WR775)    |
| R52                              | 1-249-437-11   | CARBON                           | 47K    | 5% | 1/4W (WR87ES)   |
| R52                              | 1-249-441-11   | CARBON                           | 100K   | 5% | 1/4W (WR775)    |
| R53                              | 1-249-429-11   | CARBON                           | 10K    | 5% | 1/4W            |
| R54                              | △ 1-212-849-00 | FUSIBLE                          | 4.7    | 5% | 1/4W F (WR87ES) |
| R54                              | △ 1-212-851-00 | FUSIBLE                          | 5.6    | 5% | 1/4W F (WR775)  |
| 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    |        |    |                 |
| *****                            |                |                                  |        |    |                 |
| * 1-634-841-11 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 SENSOR NJL5165K-B          |        |    |                 |
| IC82                             | 8-719-710-03   | PHOTO SENSOR NJL5165K-B (WR87ES) |        |    |                 |
| < RESISTOR >                     |                |                                  |        |    |                 |
| R81                              | 1-249-414-11   | CARBON                           | 560    | 5% | 1/4W            |
| R82                              | 1-247-818-11   | CARBON                           | 300    | 5% | 1/4W            |
| R83                              | 1-247-834-11   | CARBON                           | 1.3K   | 5% | 1/4W            |
| R84                              | 1-249-417-11   | CARBON                           | 1K     | 5% | 1/4W            |
| R85                              | 1-249-408-11   | CARBON                           | 180    | 5% | 1/4W            |
| R86                              | 1-249-408-11   | CARBON                           | 180    | 5% | 1/4W (WR87ES)   |

| Ref. No.                                              | Part No.       | Description                        | Remark                  |
|-------------------------------------------------------|----------------|------------------------------------|-------------------------|
| < SWITCH >                                            |                |                                    |                         |
| S81                                                   | 1-571-958-11   | SWITCH, PUSH (1 KEY) (STOP)        |                         |
| S82                                                   | 1-571-281-21   | SWITCH, LEAF (CrO2)                |                         |
| S83                                                   | 1-571-281-21   | SWITCH, LEAF (METAL)               |                         |
| S84                                                   | 1-571-281-21   | SWITCH, LEAF (ERASE PROOF A)       |                         |
| S85                                                   | 1-571-281-21   | SWITCH, LEAF (ERASE PROOF B)       |                         |
| S86                                                   | 1-571-281-21   | SWITCH, LEAF (HALF)                |                         |
| *****                                                 |                |                                    |                         |
| * A-2006-512-A PANEL BOARD, COMPLETE (INCLUDING SW(A) |                |                                    |                         |
| , SW(B), HP, POWER SW BOARD) (WR87ES)                 |                |                                    |                         |
| * A-2006-518-A PANEL BOARD, COMPLETE                  |                |                                    |                         |
| (INCLUDING FL, HP BOARD) (WR775)                      |                |                                    |                         |
| *****                                                 |                |                                    |                         |
| 9-911-844-XX CUSHION                                  |                |                                    |                         |
| 3-365-420-01 HOLDER, FL TUBE                          |                |                                    |                         |
| < CAPACITOR >                                         |                |                                    |                         |
| C901                                                  | 1-164-159-11   | CERAMIC                            | 0.1uF 50V               |
| C902                                                  | 1-124-443-11   | ELECT                              | 100uF 20% 6.3V (WR87ES) |
| C902                                                  | 1-128-340-91   | ELECT                              | 100uF 20% 6.3V (WR775)  |
| C903                                                  | 1-164-159-11   | CERAMIC                            | 0.1uF 50V               |
| < CONNECTOR >                                         |                |                                    |                         |
| CN901                                                 | * 1-568-834-11 | SOCKET, CONNECTOR 15P (WR87ES)     |                         |
| CN901                                                 | * 1-568-858-11 | SOCKET, CONNECTOR 15P (WR775)      |                         |
| CN902                                                 | * 1-568-830-11 | SOCKET, CONNECTOR 11P              |                         |
| CN904                                                 | * 1-564-498-11 | PIN, CONNECTOR 5P (WR87ES)         |                         |
| CN905                                                 | * 1-564-498-11 | PIN, CONNECTOR 5P (WR87ES)         |                         |
| CN906                                                 | * 1-564-498-11 | PIN, CONNECTOR 5P (WR87ES)         |                         |
| < CIRCUIT BLOCK >                                     |                |                                    |                         |
| CP901                                                 | 1-232-946-11   | COMPOSITION CIRCUIT BLOCK (10kX4)  |                         |
| CP902                                                 | 1-239-059-11   | COMPOSITION CIRCUIT BLOCK (2.2kX4) |                         |
| CP903                                                 | 1-233-199-11   | COMPOSITION CIRCUIT BLOCK (10kX8)  |                         |
| CP904                                                 | 1-239-060-11   | COMPOSITION CIRCUIT BLOCK (100kX8) |                         |
| < FLUORESCENT INDICATOR >                             |                |                                    |                         |
| FL901                                                 | 1-519-594-11   | INDICATOR TUBE, FLUORESCENT        |                         |
| < IC >                                                |                |                                    |                         |
| IC901                                                 | 8-759-636-52   | IC M50941-581SP (WR87ES)           |                         |
| IC901                                                 | 8-759-636-78   | IC M50941-580SP (WR775)            |                         |
| IC902                                                 | 8-741-100-48   | IC SBX1610-59                      |                         |

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.

## PANEL

INCLUDING SW(A), SW(B), HP, POWER SW, FL

| Ref. No. | Part No.     | Description                  | Remark | Ref. No. | Part No.     | Description                                  | Remark |
|----------|--------------|------------------------------|--------|----------|--------------|----------------------------------------------|--------|
|          |              | < JACK >                     |        |          |              |                                              |        |
| J501     | 1-507-796-71 | JACK (PHONES)                |        | R942     | 1-249-417-11 | CARBON 1K 5% 1/4W                            |        |
|          |              | < TRANSISTOR >               |        | R943     | 1-249-420-11 | CARBON 1.8K 5% 1/4W                          |        |
| Q901     | 8-729-900-65 | TRANSISTOR DTA144ES          |        | R944     | 1-249-424-11 | CARBON 3.9K 5% 1/4W                          |        |
| Q902     | 8-729-620-05 | TRANSISTOR 2SC2603-EF        |        | R945     | 1-249-430-11 | CARBON 12K 5% 1/4W                           |        |
| Q903     | 8-729-620-05 | TRANSISTOR 2SC2603-EF        |        | R946     | 1-249-407-11 | CARBON 150 5% 1/4W                           |        |
| Q904     | 8-729-900-74 | TRANSISTOR DTC143TS          |        |          |              |                                              |        |
| Q905     | 8-729-900-65 | TRANSISTOR DTA144ES          |        | R950     | 1-249-430-11 | CARBON 12K 5% 1/4W (WR87ES)                  |        |
| Q906     | 8-729-900-65 | TRANSISTOR DTA144ES          |        | R951     | 1-249-429-11 | CARBON 10K 5% 1/4W (WR87ES)                  |        |
| Q907     | 8-729-620-05 | TRANSISTOR 2SC2603-EF        |        |          |              |                                              |        |
| Q908     | 8-729-620-05 | TRANSISTOR 2SC2603-EF        |        |          |              | < VARIABLE RESISTOR >                        |        |
| Q909     | 8-729-620-05 | TRANSISTOR 2SC2603-EF        |        | RV501    | 1-241-503-11 | RES. VAR. CARBON 50K/50K (BALANCE)           |        |
|          |              | < RESISTOR >                 |        | RV502    | 1-241-502-11 | RES. VAR. CARBON 50K/50K (REC LEVEL)         |        |
| R901     | 1-247-903-00 | CARBON 1M 5% 1/4W            |        | RV901    | 1-241-134-11 | RES. VAR. CARBON 20K (BIAS) (WR87ES)         |        |
| R902     | 1-249-417-11 | CARBON 1K 5% 1/4W            |        |          |              | < SWITCH >                                   |        |
| R903     | 1-249-437-11 | CARBON 47K 5% 1/4W           |        | S901     | 1-554-303-21 | SWITCH, TACTILE (HIGH SPEED SYNCHRO DUBBING) |        |
| R904     | 1-249-430-11 | CARBON 12K 5% 1/4W           |        | S902     | 1-554-303-21 | SWITCH, TACTILE (NORM SPEED SYNCHRO DUBBING) |        |
| R905     | 1-247-887-00 | CARBON 220K 5% 1/4W          |        |          |              |                                              |        |
| R906     | 1-247-887-00 | CARBON 220K 5% 1/4W          |        | S903     | 1-554-303-21 | SWITCH, TACTILE (REC A+B)                    |        |
| R907     | 1-247-887-00 | CARBON 220K 5% 1/4W          |        | S904     | 1-554-303-21 | SWITCH, TACTILE (AUTO PAUSE)                 |        |
| R908     | 1-247-887-00 | CARBON 220K 5% 1/4W          |        | S905     | 1-554-303-21 | SWITCH, TACTILE (BLANK SKIP)                 |        |
| R909     | 1-249-433-11 | CARBON 22K 5% 1/4W           |        | S906     | 1-554-303-21 | SWITCH, TACTILE (RESET A)                    |        |
| R910     | 1-249-424-11 | CARBON 3.9K 5% 1/4W          |        | S908     | 1-554-303-21 | SWITCH, TACTILE (RESET B)                    |        |
| R911     | 1-249-437-11 | CARBON 47K 5% 1/4W           |        |          |              |                                              |        |
| R912     | 1-249-437-11 | CARBON 47K 5% 1/4W           |        | S909     | 1-554-303-21 | SWITCH, TACTILE (MEMORY)                     |        |
| R921     | 1-249-407-11 | CARBON 150 5% 1/4W           |        | S910     | 1-554-303-21 | SWITCH, TACTILE (STOP A)                     |        |
| R922     | 1-249-409-11 | CARBON 220 5% 1/4W           |        | S911     | 1-554-303-21 | SWITCH, TACTILE (FWD A)                      |        |
| R923     | 1-249-411-11 | CARBON 330 5% 1/4W           |        | S912     | 1-554-303-21 | SWITCH, TACTILE (REV A)                      |        |
| R924     | 1-249-413-11 | CARBON 470 5% 1/4W           |        | S913     | 1-554-303-21 | SWITCH, TACTILE (PAUSE A)                    |        |
| R925     | 1-249-415-11 | CARBON 680 5% 1/4W           |        |          |              |                                              |        |
| R926     | 1-249-417-11 | CARBON 1K 5% 1/4W            |        | S914     | 1-554-303-21 | SWITCH, TACTILE (REC MUTE A)                 |        |
| R927     | 1-249-420-11 | CARBON 1.8K 5% 1/4W          |        | S915     | 1-554-303-21 | SWITCH, TACTILE (REW A)                      |        |
| R928     | 1-249-424-11 | CARBON 3.9K 5% 1/4W          |        | S916     | 1-554-303-21 | SWITCH, TACTILE (FF A)                       |        |
| R929     | 1-249-407-11 | CARBON 150 5% 1/4W           |        | S917     | 1-554-303-21 | SWITCH, TACTILE (REC A)                      |        |
| R930     | 1-249-409-11 | CARBON 220 5% 1/4W           |        | S918     | 1-554-303-21 | SWITCH, TACTILE (STOP B)                     |        |
| R931     | 1-249-411-11 | CARBON 330 5% 1/4W           |        |          |              |                                              |        |
| R932     | 1-249-413-11 | CARBON 470 5% 1/4W           |        | S919     | 1-554-303-21 | SWITCH, TACTILE (FWD B)                      |        |
| R933     | 1-249-415-11 | CARBON 680 5% 1/4W           |        | S920     | 1-554-303-21 | SWITCH, TACTILE (REV B)                      |        |
| R934     | 1-249-417-11 | CARBON 1K 5% 1/4W            |        | S921     | 1-554-303-21 | SWITCH, TACTILE (PAUSE B)                    |        |
| R935     | 1-249-420-11 | CARBON 1.8K 5% 1/4W          |        | S922     | 1-554-303-21 | SWITCH, TACTILE (REC MUTE B)                 |        |
| R936     | 1-249-424-11 | CARBON 3.9K 5% 1/4W (WR87ES) |        | S923     | 1-554-303-21 | SWITCH, TACTILE (REW B)                      |        |
| R937     | 1-249-407-11 | CARBON 150 5% 1/4W           |        |          |              |                                              |        |
| R938     | 1-249-409-11 | CARBON 220 5% 1/4W           |        | S924     | 1-554-303-21 | SWITCH, TACTILE (FF B)                       |        |
| R939     | 1-249-411-11 | CARBON 330 5% 1/4W           |        | S925     | 1-554-303-21 | SWITCH, TACTILE (REC B)                      |        |
| R940     | 1-249-413-11 | CARBON 470 5% 1/4W           |        |          |              |                                              |        |
| R941     | 1-249-415-11 | CARBON 680 5% 1/4W           |        | S926     | 1-571-520-11 | SWITCH, SLIDE (DIRECTION) (WR87ES)           |        |
|          |              |                              |        | S926     | 1-572-401-11 | SWITCH, SLIDE (DIRECTION) (WR775)            |        |
|          |              |                              |        | S927     | 1-571-520-11 | SWITCH, SLIDE (B DECK DOLBY) (WR87ES)        |        |
|          |              |                              |        | S927     | 1-572-401-11 | SWITCH, SLIDE (B DECK DOLBY) (WR775)         |        |
|          |              |                              |        | S928     | 1-571-520-11 | SWITCH, SLIDE (TIMER OFF) (WR87ES)           |        |

**PANEL**

INCLUDING SW(A), SW(B), HP, POWER SW, FL

**SYSTEM CONTROL**

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

| Ref. No.                                                 | Part No.     | Description              | Remark                | Ref. No. | Part No.     | Description | Remark                  |
|----------------------------------------------------------|--------------|--------------------------|-----------------------|----------|--------------|-------------|-------------------------|
|                                                          |              | < CERAMIC >              |                       |          |              |             |                         |
| X901                                                     | 1-577-358-21 | VIBRATOR, CERAMIC (4MHz) |                       | C221     | 1-124-907-11 | ELECT       | 10uF 20% 50V            |
| *****                                                    |              |                          |                       | C222     | 1-124-907-11 | ELECT       | 10uF 20% 50V            |
| * A-2006-511-A SYSTEM CONTROL BOARD, COMPLETE (INCLUDING |              |                          |                       | C224     | 1-124-902-00 | ELECT       | 0.47uF 20% 50V          |
| HX PRO (A), HX PRO (B), TRANSLATION (A),                 |              |                          |                       | C231     | 1-123-382-00 | ELECT       | 3.3uF 20% 100V          |
| TRANSLATION (B), MPX BOARD) (WR87ES)                     |              |                          |                       | C251     | 1-124-907-11 | ELECT       | 10uF 20% 50V            |
| * A-2006-517-A SYSTEM CONTROL BOARD, COMPLETE (INCLUDING |              |                          |                       | C252     | 1-124-907-11 | ELECT       | 10uF 20% 50V            |
| HX PRO (A), HX PRO (B), TRANSLATION (A),                 |              |                          |                       | C254     | 1-124-902-00 | ELECT       | 0.47uF 20% 50V          |
| TRANSLATION (B), POWER SW BOARD) (WR775)                 |              |                          |                       | C281     | 1-126-096-11 | ELECT       | 10uF 20% 25V (WR87ES)   |
| *****                                                    |              |                          |                       | C391     | 1-136-273-91 | FILM        | 75PF 5% 630V (WR775)    |
| * 1-533-213-31 HOLDER, FUSE                              |              |                          |                       | C391     | 1-136-935-11 | FILM        | 22PF 5% 630V (WR87ES)   |
| * 1-533-213-31 HOLDER, FUSE                              |              |                          |                       | C392     | 1-162-285-31 | CERAMIC     | 180PF 10% 50V (WR87ES)  |
| 7-685-646-79 SCREW +BVTP 3X8 TYPE2 SLIT                  |              |                          |                       | C392     | 1-162-288-31 | CERAMIC     | 330PF 10% 50V (WR775)   |
| 7-682-547-04 SCREW +BVTT 3X6 (S)                         |              |                          |                       | C393     | 1-130-468-00 | MYLAR       | 560PF 5% 50V (WR87ES)   |
| < CAPACITOR >                                            |              |                          |                       | C393     | 1-130-472-00 | MYLAR       | 0.0012uF 5% 50V (WR775) |
| C101                                                     | 1-136-157-00 | FILM                     | 0.022uF 5% 50V        | C394     | 1-136-433-11 | FILM        | 100PF 5% 630V           |
| C102                                                     | 1-162-294-31 | CERAMIC                  | 0.001uF 10% 50V       | C395     | 1-136-272-00 | FILM        | 68PF 5% 630V (WR87ES)   |
| C103                                                     | 1-161-375-00 | CERAMIC                  | 0.0022uF 20% 50V      | C395     | 1-136-437-11 | FILM        | 220PF 5% 630V (WR775)   |
| C104                                                     | 1-130-475-00 | MYLAR                    | 0.0022uF 5% 50V       | C396     | 1-136-165-00 | FILM        | 0.1uF 5% 50V            |
| C105                                                     | 1-130-475-00 | MYLAR                    | 0.0022uF 5% 50V       | C397     | 1-136-157-00 | FILM        | 0.022uF 5% 50V          |
| C106                                                     | 1-136-174-00 | FILM                     | 0.56uF 5% 50V         | C398     | 1-136-153-00 | FILM        | 0.01uF 5% 50V           |
| C107                                                     | 1-136-171-00 | FILM                     | 0.33uF 5% 50V         | C491     | 1-136-273-91 | FILM        | 75PF 5% 630V (WR775)    |
| C108                                                     | 1-124-907-11 | ELECT                    | 10uF 20% 50V          | C491     | 1-136-935-11 | FILM        | 22PF 5% 630V (WR87ES)   |
| C109                                                     | 1-124-126-00 | ELECT                    | 47uF 20% 10V          | C492     | 1-162-285-31 | CERAMIC     | 180PF 10% 50V (WR87ES)  |
| C110                                                     | 1-124-907-11 | ELECT                    | 10uF 20% 50V          | C492     | 1-162-288-31 | CERAMIC     | 330PF 10% 50V (WR775)   |
| C111                                                     | 1-124-903-11 | ELECT                    | 1uF 20% 50V           | C493     | 1-130-468-00 | MYLAR       | 560PF 5% 50V (WR87ES)   |
| C121                                                     | 1-124-907-11 | ELECT                    | 10uF 20% 50V          | C493     | 1-130-472-00 | MYLAR       | 0.0012uF 5% 50V (WR775) |
| C122                                                     | 1-124-907-11 | ELECT                    | 10uF 20% 50V          | C494     | 1-136-433-11 | FILM        | 100PF 5% 630V           |
| C124                                                     | 1-124-902-00 | ELECT                    | 0.47uF 20% 50V        | C495     | 1-136-272-00 | FILM        | 68PF 5% 630V (WR87ES)   |
| C131                                                     | 1-123-382-00 | ELECT                    | 3.3uF 20% 100V        | C495     | 1-136-437-11 | FILM        | 220PF 5% 630V (WR775)   |
| C151                                                     | 1-124-907-11 | ELECT                    | 10uF 20% 50V          | C496     | 1-136-165-00 | FILM        | 0.1uF 5% 50V            |
| C152                                                     | 1-124-907-11 | ELECT                    | 10uF 20% 50V          | C497     | 1-136-157-00 | FILM        | 0.022uF 5% 50V          |
| C154                                                     | 1-124-902-00 | ELECT                    | 0.47uF 20% 50V        | C498     | 1-136-153-00 | FILM        | 0.01uF 5% 50V           |
| C181                                                     | 1-126-096-11 | ELECT                    | 10uF 20% 25V (WR87ES) | C506     | 1-124-903-11 | ELECT       | 1uF 20% 50V             |
| C201                                                     | 1-136-157-00 | FILM                     | 0.022uF 5% 50V        | C542     | 1-124-925-11 | ELECT       | 2.2uF 20% 100V          |
| C202                                                     | 1-162-294-31 | CERAMIC                  | 0.001uF 10% 50V       | C591     | 1-126-927-11 | ELECT       | 2200uF 20% 10V          |
| C203                                                     | 1-161-375-00 | CERAMIC                  | 0.0022uF 20% 50V      | C592     | 1-124-589-11 | ELECT       | 47uF 20% 16V (WR87ES)   |
| C204                                                     | 1-130-475-00 | MYLAR                    | 0.0022uF 5% 50V       | C593     | 1-124-589-11 | ELECT       | 47uF 20% 16V (WR87ES)   |
| C205                                                     | 1-130-475-00 | MYLAR                    | 0.0022uF 5% 50V       | C599     | 1-124-925-11 | ELECT       | 2.2uF 20% 100V          |
| C206                                                     | 1-136-174-00 | FILM                     | 0.56uF 5% 50V         | C601     | 1-124-925-11 | ELECT       | 2.2uF 20% 100V          |
| C207                                                     | 1-136-171-00 | FILM                     | 0.33uF 5% 50V         | C602     | 1-162-286-31 | CERAMIC     | 220PF 10% 50V           |
| C208                                                     | 1-124-907-11 | ELECT                    | 10uF 20% 50V          | C603     | 1-162-286-31 | CERAMIC     | 220PF 10% 50V           |
| C209                                                     | 1-124-126-00 | ELECT                    | 47uF 20% 10V          | C604     | 1-124-925-11 | ELECT       | 2.2uF 20% 100V          |
| C210                                                     | 1-124-907-11 | ELECT                    | 10uF 20% 50V          | C605     | 1-136-157-00 | FILM        | 0.022uF 5% 50V          |
| C211                                                     | 1-124-903-11 | ELECT                    | 1uF 20% 50V           |          |              |             |                         |

## SYSTEM CONTROL

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

| Ref. No. | Part No.     | Description | Remark                  |
|----------|--------------|-------------|-------------------------|
| C608     | 1-124-925-11 | ELECT       | 2.2uF 20% 100V          |
| C691     | 1-107-046-00 | MICA        | 4.7PF 500V              |
| C692     | 1-124-126-00 | ELECT       | 47uF 20% 10V            |
| C693     | 1-126-101-11 | ELECT       | 100uF 20% 16V           |
| C694     | 1-124-902-00 | ELECT       | 0.47uF 20% 50V          |
| C701     | 1-124-443-00 | ELECT       | 100uF 20% 10V           |
| C702     | 1-124-122-11 | ELECT       | 100uF 20% 50V           |
| C703     | 1-124-925-11 | ELECT       | 2.2uF 20% 100V          |
| C704     | 1-124-911-11 | ELECT       | 220uF 20% 50V           |
| C705     | 1-124-927-11 | ELECT       | 4.7uF 20% 100V          |
| C707     | 1-124-925-11 | ELECT       | 2.2uF 20% 100V          |
| C708     | 1-124-564-11 | ELECT       | 4700uF 20% 25V          |
| C709     | 1-124-126-00 | ELECT       | 47uF 20% 10V            |
| C710     | 1-126-927-11 | ELECT       | 2200uF 20% 10V          |
| C711     | 1-126-927-11 | ELECT       | 2200uF 20% 10V          |
| C712     | 1-126-946-11 | ELECT       | 6800uF 20% 25V          |
| C713     | 1-161-494-00 | CERAMIC     | 0.022uF 25V             |
| C801     | 1-124-443-00 | ELECT       | 100uF 20% 10V           |
| C802     | 1-164-159-11 | CERAMIC     | 0.1uF 50V               |
| C803     | 1-164-159-11 | CERAMIC     | 0.1uF 50V               |
| C804     | 1-124-443-00 | ELECT       | 100uF 20% 10V           |
| C805     | 1-124-925-11 | ELECT       | 2.2uF 20% 100V          |
| C806     | 1-136-165-00 | FILM        | 0.1uF 5% 50V            |
| C807     | 1-136-165-00 | FILM        | 0.1uF 5% 50V            |
| C851     | 1-124-902-00 | ELECT       | 0.47uF 20% 50V          |
| C861     | 1-162-294-31 | CERAMIC     | 0.001uF 10% 50V         |
| C0391    | 1-136-273-91 | FILM        | 75PF 5% 630V (WR775)    |
| C0391    | 1-136-935-11 | FILM        | 22PF 5% 630V (WR87ES)   |
| C0392    | 1-162-285-31 | CERAMIC     | 180PF 10% 50V (WR87ES)  |
| C0392    | 1-162-288-31 | CERAMIC     | 330PF 10% 50V (WR775)   |
| C0393    | 1-130-468-00 | MYLAR       | 560PF 5% 50V (WR87ES)   |
| C0393    | 1-130-472-00 | MYLAR       | 0.0012uF 5% 50V (WR775) |
| C0394    | 1-136-433-11 | FILM        | 100PF 5% 630V           |
| C0395    | 1-136-272-00 | FILM        | 68PF 5% 630V (WR87ES)   |
| C0395    | 1-136-437-11 | FILM        | 220PF 5% 630V (WR775)   |
| C0396    | 1-136-165-00 | FILM        | 0.1uF 5% 50V            |
| C0397    | 1-136-157-00 | FILM        | 0.022uF 5% 50V          |
| C0398    | 1-136-153-00 | FILM        | 0.01uF 5% 50V           |
| C0491    | 1-136-273-91 | FILM        | 75PF 5% 630V (WR775)    |
| C0491    | 1-136-935-11 | FILM        | 22PF 5% 630V (WR87ES)   |
| C0492    | 1-162-285-31 | CERAMIC     | 180PF 10% 50V (WR87ES)  |
| C0492    | 1-162-288-31 | CERAMIC     | 330PF 10% 50V (WR775)   |
| C0493    | 1-130-468-00 | MYLAR       | 560PF 5% 50V (WR87ES)   |
| C0493    | 1-130-472-00 | MYLAR       | 0.0012uF 5% 50V (WR775) |

| Ref. No. | Part No.     | Description | Remark                |
|----------|--------------|-------------|-----------------------|
| C0494    | 1-136-433-11 | FILM        | 100PF 5% 630V         |
| C0495    | 1-136-272-00 | FILM        | 68PF 5% 630V (WR87ES) |
| C0495    | 1-136-437-11 | FILM        | 220PF 5% 630V (WR775) |
| C0496    | 1-136-165-00 | FILM        | 0.1uF 5% 50V          |
| C0497    | 1-136-157-00 | FILM        | 0.022uF 5% 50V        |
| C0498    | 1-136-153-00 | FILM        | 0.01uF 5% 50V         |
| C0691    | 1-107-046-00 | MICA        | 4.7PF 500V            |
| C0692    | 1-124-126-00 | ELECT       | 47uF 20% 10V          |
| C0693    | 1-126-101-11 | ELECT       | 100uF 20% 16V         |
| C0694    | 1-124-902-00 | ELECT       | 0.47uF 20% 50V        |

## &lt; CONNECTOR &gt;

|          |                |                                 |
|----------|----------------|---------------------------------|
| CN501    | * 1-568-824-11 | SOCKET, CONNECTOR 5P            |
| CN502    | * 1-568-824-11 | SOCKET, CONNECTOR 5P            |
| CN503    | * 1-568-826-11 | SOCKET, CONNECTOR 7P            |
| CN504    | * 1-568-826-11 | SOCKET, CONNECTOR 7P            |
| CN505    | * 1-564-337-00 | PIN, CONNECTOR 3P (WR775)       |
| CN505    | * 1-568-824-11 | SOCKET, CONNECTOR 5P (WR87ES)   |
| CN506    | * 1-568-848-11 | SOCKET, CONNECTOR 5P (WR87ES)   |
| CN601    | * 1-564-509-11 | PLUG, CONNECTOR 6P              |
| CN691    | * 1-568-826-11 | SOCKET, CONNECTOR 7P            |
| CN701    | * 1-564-338-00 | PIN, CONNECTOR 4P (WR87ES)      |
| CN701    | * 1-564-339-00 | PIN, CONNECTOR 5P (WR775)       |
| CN703    | * 1-564-510-11 | PLUG, CONNECTOR 7P              |
| CN801    | * 1-568-830-11 | SOCKET, CONNECTOR 11P           |
| CN802    | * 1-568-828-11 | SOCKET, CONNECTOR 9P            |
| CN803    | * 1-568-828-11 | SOCKET, CONNECTOR 9P            |
| CN804    | * 1-568-828-11 | SOCKET, CONNECTOR 9P            |
| CN805    | * 1-568-828-11 | SOCKET, CONNECTOR 9P            |
| CN806    | * 1-568-834-11 | SOCKET, CONNECTOR 15P           |
| CN0691   | * 1-568-826-11 | SOCKET, CONNECTOR 7P            |
| GNP506   | * 1-564-505-11 | PLUG, CONNECTOR 2P (WR87ES)     |
| CNP691   | * 1-565-347-11 | SOCKET, CONNECTOR (PC BOARD) 8P |
| CNP0691* | * 1-565-347-11 | SOCKET, CONNECTOR (PC BOARD) 8P |

## &lt; DIODE &gt;

|      |              |                |
|------|--------------|----------------|
| D131 | 8-719-912-20 | DIODE 1SS120   |
| D231 | 8-719-912-20 | DIODE 1SS120   |
| D501 | 8-719-912-20 | DIODE 1SS120   |
| D502 | 8-719-912-20 | DIODE 1SS120   |
| D503 | 8-719-933-54 | DIODE HZS9A2L  |
| D571 | 8-719-912-20 | DIODE 1SS120   |
| D572 | 8-719-001-36 | DIODE UZL-11L2 |
| D601 | 8-719-912-20 | DIODE 1SS120   |
| D602 | 8-719-912-20 | DIODE 1SS120   |
| D701 | 8-719-000-78 | DIODE HZS7A1L  |

# SYSTEM CONTROL

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

| Ref. No. | Part No.     | Description                         | Remark | Ref. No. | Part No.     | Description               | Remark |
|----------|--------------|-------------------------------------|--------|----------|--------------|---------------------------|--------|
| D702     | 8-719-912-20 | DIODE 1SS120                        |        |          |              | < FILTER >                |        |
| D703     | 8-719-200-77 | DIODE 10E2N                         |        | LPF101   | 1-231-388-00 | FILTER, LOW PASS (WR775)  |        |
| D704     | 8-719-200-77 | DIODE 10E2N                         |        | LPF101   | 1-236-147-11 | FILTER, LOW PASS (WR87ES) |        |
| D705     | 8-719-200-77 | DIODE 10E2N                         |        |          |              |                           |        |
| D706     | 8-719-912-20 | DIODE 1SS120                        |        | LPF201   | 1-231-388-00 | FILTER, LOW PASS (WR775)  |        |
|          |              |                                     |        | LPF201   | 1-236-147-11 | FILTER, LOW PASS (WR87ES) |        |
| D707     | 8-719-200-77 | DIODE 10E2N                         |        |          |              | < TRANSISTOR >            |        |
| D708     | 8-719-200-77 | DIODE 10E2N                         |        |          |              |                           |        |
| D709     | 8-719-933-33 | DIODE HZS7A1L                       |        | Q101     | 8-729-900-74 | TRANSISTOR DTC143TS       |        |
| D710     | 8-719-200-77 | DIODE 10E2N                         |        | Q102     | 8-729-900-74 | TRANSISTOR DTC143TS       |        |
| D711     | 8-719-200-77 | DIODE 10E2N                         |        | Q121     | 8-729-821-31 | TRANSISTOR 2SD1012-FG     |        |
|          |              |                                     |        | Q171     | 8-729-821-31 | TRANSISTOR 2SD1012-FG     |        |
| D712     | 8-719-933-33 | DIODE HZS7A1L                       |        | Q201     | 8-729-900-74 | TRANSISTOR DTC143TS       |        |
| D713     | 8-719-000-93 | DIODE UZL-7H1                       |        |          |              |                           |        |
| D801     | 8-719-912-20 | DIODE 1SS120                        |        | Q202     | 8-729-900-74 | TRANSISTOR DTC143TS       |        |
| D811     | 8-719-912-20 | DIODE 1SS120                        |        | Q221     | 8-729-821-31 | TRANSISTOR 2SD1012-FG     |        |
| D812     | 8-719-912-20 | DIODE 1SS120                        |        | Q271     | 8-729-821-31 | TRANSISTOR 2SD1012-FG     |        |
|          |              | < IC >                              |        | Q501     | 8-729-900-65 | TRANSISTOR DTA144ES       |        |
| IC501    | 8-752-035-94 | IC CXA1331S                         |        | Q502     | 8-729-900-65 | TRANSISTOR DTA144ES       |        |
| IC503    | 8-759-945-58 | IC RC4558P                          |        |          |              |                           |        |
| IC504    | 8-759-945-58 | IC RC4558P                          |        | Q503     | 8-729-900-65 | TRANSISTOR DTA144ES       |        |
| IC506    | 8-759-140-53 | IC uPD4053BC                        |        | Q504     | 8-729-900-65 | TRANSISTOR DTA144ES       |        |
| IC509    | 8-752-038-02 | IC CXA1198AP                        |        | Q505     | 8-729-900-89 | TRANSISTOR DTC144ES       |        |
|          |              |                                     |        | Q521     | 8-729-900-61 | TRANSISTOR DTA114ES       |        |
| IC510    | 8-759-208-06 | IC TC4051BPHB                       |        | Q551     | 8-729-900-61 | TRANSISTOR DTA114ES       |        |
| IC511    | 8-752-038-02 | IC CXA1198AP                        |        |          |              |                           |        |
| IC601    | 8-759-634-50 | IC M5218AL (WR87ES)                 |        | Q552     | 8-729-821-31 | TRANSISTOR 2SD1012-FG     |        |
| IC601    | 8-759-634-51 | IC M5218AP (WR775)                  |        | Q553     | 8-729-821-31 | TRANSISTOR 2SD1012-FG     |        |
|          |              |                                     |        | Q571     | 8-729-900-65 | TRANSISTOR DTA144ES       |        |
| IC691    | 8-759-106-56 | IC uPC1297CA                        |        | Q572     | 8-729-821-04 | TRANSISTOR 2SA1317-STU    |        |
| IC701    | 8-759-945-58 | IC RC4558P                          |        | Q601     | 8-729-900-89 | TRANSISTOR DTC144ES       |        |
| IC802    | 8-759-635-94 | IC M50925SP-482SP                   |        |          |              |                           |        |
| IC803    | 8-759-634-84 | IC M50255P                          |        | Q701     | 8-729-111-55 | TRANSISTOR 2SD1312-K      |        |
| IC804    | 8-759-240-50 | IC TC4050BP                         |        | Q702     | 8-729-620-05 | TRANSISTOR 2SC2603-EF     |        |
|          |              |                                     |        | Q703     | 8-729-821-04 | TRANSISTOR 2SA1317-STU    |        |
| IC805    | 8-759-207-05 | IC TA7272P                          |        | Q704     | 8-729-924-90 | TRANSISTOR 2SB1370-EF     |        |
| IC806    | 8-759-000-48 | IC MC14052BCP                       |        | Q705     | 8-729-924-90 | TRANSISTOR 2SB1370-EF     |        |
| IC807    | 8-759-000-48 | IC MC14052BCP                       |        |          |              |                           |        |
| IC0691   | 8-759-106-56 | IC uPC1297CA                        |        | Q706     | 8-729-900-85 | TRANSISTOR DTC144WS       |        |
|          |              | < JACK >                            |        | Q707     | 8-729-111-55 | TRANSISTOR 2SD1312-K      |        |
| J301     | 1-565-258-11 | JACK, PIN 4P (LINE IN/OUT) (WR775)  |        | Q708     | 8-729-900-89 | TRANSISTOR DTC144ES       |        |
| J301     | 1-568-069-11 | JACK, PIN 4P (INLE IN/OUT) (WR87ES) |        | Q801     | 8-729-801-84 | TRANSISTOR 2SB1013-3      |        |
|          |              |                                     |        | Q802     | 8-729-801-84 | TRANSISTOR 2SB1013-3      |        |
|          |              | < COIL >                            |        |          |              |                           |        |
| L391     | 1-410-780-11 | INDUCTOR 27mH                       |        | Q803     | 8-729-900-61 | TRANSISTOR DTA114ES       |        |
| L491     | 1-410-780-11 | INDUCTOR 27mH                       |        | Q804     | 8-729-900-80 | TRANSISTOR DTC114ES       |        |
| L0391    | 1-410-780-11 | INDUCTOR 27mH                       |        | Q805     | 8-729-900-61 | TRANSISTOR DTA114ES       |        |
| L0491    | 1-410-780-11 | INDUCTOR 27mH                       |        | Q806     | 8-729-900-61 | TRANSISTOR DTA114ES       |        |
|          |              |                                     |        | Q807     | 8-729-821-04 | TRANSISTOR 2SA1317-STU    |        |
|          |              |                                     |        |          |              |                           |        |
|          |              |                                     |        | Q851     | 8-729-900-61 | TRANSISTOR DTA114ES       |        |
|          |              |                                     |        | Q852     | 8-729-900-89 | TRANSISTOR DTC144ES       |        |
|          |              |                                     |        | Q853     | 8-729-900-61 | TRANSISTOR DTA114ES       |        |
|          |              |                                     |        | Q854     | 8-729-900-89 | TRANSISTOR DTC144ES       |        |
|          |              |                                     |        | Q891     | 8-729-900-61 | TRANSISTOR DTA114ES       |        |

## SYSTEM CONTROL

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

| Ref. No.     | Part No.     | Description | Remark |    |               | Ref. No. | Part No.       | Description | Remark |    |               |
|--------------|--------------|-------------|--------|----|---------------|----------|----------------|-------------|--------|----|---------------|
| < RESISTOR > |              |             |        |    |               | R231     | 1-249-408-11   | CARBON      | 180    | 5% | 1/4W          |
| R101         | 1-249-423-11 | CARBON      | 3.3K   | 5% | 1/4W          | R232     | 1-247-870-11   | CARBON      | 43K    | 5% | 1/4W          |
| R102         | 1-247-887-00 | CARBON      | 220K   | 5% | 1/4W          | R233     | 1-249-421-11   | CARBON      | 2.2K   | 5% | 1/4W          |
| R103         | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W          | R234     | 1-249-435-11   | CARBON      | 33K    | 5% | 1/4W          |
| R104         | 1-249-423-11 | CARBON      | 3.3K   | 5% | 1/4W          | R251     | 1-249-425-11   | CARBON      | 4.7K   | 5% | 1/4W          |
| R105         | 1-249-428-11 | CARBON      | 8.2K   | 5% | 1/4W          | R253     | 1-249-421-11   | CARBON      | 2.2K   | 5% | 1/4W          |
| R106         | 1-247-864-11 | CARBON      | 24K    | 5% | 1/4W          | R255     | 1-249-426-11   | CARBON      | 5.6K   | 5% | 1/4W          |
| R107         | 1-249-414-11 | CARBON      | 560    | 5% | 1/4W          | R256     | 1-249-429-11   | CARBON      | 10K    | 5% | 1/4W          |
| R119         | 1-249-421-11 | CARBON      | 2.2K   | 5% | 1/4W          | R271     | 1-249-433-11   | CARBON      | 22K    | 5% | 1/4W          |
| R121         | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W          | R272     | 1-249-417-11   | CARBON      | 1K     | 5% | 1/4W          |
| R124         | 1-249-426-11 | CARBON      | 5.6K   | 5% | 1/4W          | R273     | 1-249-430-11   | CARBON      | 12K    | 5% | 1/4W (WR775)  |
| R125         | 1-249-421-11 | CARBON      | 2.2K   | 5% | 1/4W          | R273     | 1-249-431-11   | CARBON      | 15K    | 5% | 1/4W (WR87ES) |
| R126         | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W          | R274     | 1-249-421-11   | CARBON      | 2.2K   | 5% | 1/4W          |
| R131         | 1-249-408-11 | CARBON      | 180    | 5% | 1/4W          | R281     | 1-249-429-11   | CARBON      | 10K    | 5% | 1/4W (WR775)  |
| R132         | 1-247-870-11 | CARBON      | 43K    | 5% | 1/4W          | R281     | 1-249-433-11   | CARBON      | 22K    | 5% | 1/4W (WR87ES) |
| R133         | 1-249-421-11 | CARBON      | 2.2K   | 5% | 1/4W          | R282     | 1-249-421-11   | CARBON      | 2.2K   | 5% | 1/4W (WR87ES) |
| R134         | 1-249-435-11 | CARBON      | 33K    | 5% | 1/4W          | R283     | 1-249-433-11   | CARBON      | 22K    | 5% | 1/4W (WR87ES) |
| R151         | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W          | R284     | 1-249-405-11   | CARBON      | 100    | 5% | 1/4W (WR775)  |
| R153         | 1-249-421-11 | CARBON      | 2.2K   | 5% | 1/4W          | R284     | 1-249-409-11   | CARBON      | 220    | 5% | 1/4W (WR87ES) |
| R155         | 1-249-426-11 | CARBON      | 5.6K   | 5% | 1/4W          | R291     | 1-249-420-11   | CARBON      | 1.8K   | 5% | 1/4W          |
| R156         | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W          | R391     | 1-249-428-11   | CARBON      | 8.2K   | 5% | 1/4W (WR87ES) |
| R171         | 1-249-433-11 | CARBON      | 22K    | 5% | 1/4W          | R391     | 1-249-430-11   | CARBON      | 12K    | 5% | 1/4W (WR775)  |
| R172         | 1-249-417-11 | CARBON      | 1K     | 5% | 1/4W          | R392     | 1-247-883-00   | CARBON      | 150K   | 5% | 1/4W (WR775)  |
| R173         | 1-249-430-11 | CARBON      | 12K    | 5% | 1/4W (WR775)  | R392     | 1-247-884-11   | CARBON      | 160K   | 5% | 1/4W (WR87ES) |
| R173         | 1-249-431-11 | CARBON      | 15K    | 5% | 1/4W (WR87ES) | R393     | △ 1-212-857-00 | FUSIBLE     | 10     | 5% | 1/4W F        |
| R174         | 1-249-421-11 | CARBON      | 2.2K   | 5% | 1/4W          | R394     | 1-249-431-11   | CARBON      | 15K    | 5% | 1/4W (WR775)  |
| R181         | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W (WR775)  | R394     | 1-249-432-11   | CARBON      | 18K    | 5% | 1/4W (WR87ES) |
| R181         | 1-249-433-11 | CARBON      | 22K    | 5% | 1/4W (WR87ES) | R395     | 1-247-854-11   | CARBON      | 9.1K   | 5% | 1/4W (WR87ES) |
| R182         | 1-249-421-11 | CARBON      | 2.2K   | 5% | 1/4W (WR87ES) | R395     | 1-247-862-11   | CARBON      | 20K    | 5% | 1/4W (WR775)  |
| R183         | 1-249-433-11 | CARBON      | 22K    | 5% | 1/4W (WR87ES) | R491     | 1-249-428-11   | CARBON      | 8.2K   | 5% | 1/4W (WR87ES) |
| R184         | 1-249-405-11 | CARBON      | 100    | 5% | 1/4W (WR775)  | R491     | 1-249-430-11   | CARBON      | 12K    | 5% | 1/4W (WR775)  |
| R184         | 1-249-409-11 | CARBON      | 220    | 5% | 1/4W (WR87ES) | R492     | 1-247-883-00   | CARBON      | 150K   | 5% | 1/4W (WR775)  |
| R191         | 1-249-420-11 | CARBON      | 1.8K   | 5% | 1/4W          | R492     | 1-247-884-11   | CARBON      | 160K   | 5% | 1/4W (WR87ES) |
| R201         | 1-249-423-11 | CARBON      | 3.3K   | 5% | 1/4W          | R493     | △ 1-212-857-00 | FUSIBLE     | 10     | 5% | 1/4W F        |
| R202         | 1-247-887-00 | CARBON      | 220K   | 5% | 1/4W          | R494     | 1-249-431-11   | CARBON      | 15K    | 5% | 1/4W (WR775)  |
| R203         | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W          | R494     | 1-249-432-11   | CARBON      | 18K    | 5% | 1/4W (WR87ES) |
| R204         | 1-249-423-11 | CARBON      | 3.3K   | 5% | 1/4W          | R495     | 1-247-854-11   | CARBON      | 9.1K   | 5% | 1/4W (WR87ES) |
| R205         | 1-249-428-11 | CARBON      | 8.2K   | 5% | 1/4W          | R495     | 1-247-862-11   | CARBON      | 20K    | 5% | 1/4W (WR775)  |
| R206         | 1-247-864-11 | CARBON      | 24K    | 5% | 1/4W          |          |                |             |        |    |               |
| R207         | 1-249-414-11 | CARBON      | 560    | 5% | 1/4W          |          |                |             |        |    |               |
| R219         | 1-249-421-11 | CARBON      | 2.2K   | 5% | 1/4W          |          |                |             |        |    |               |
| R221         | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W          |          |                |             |        |    |               |
| R224         | 1-249-426-11 | CARBON      | 5.6K   | 5% | 1/4W          |          |                |             |        |    |               |
| R225         | 1-249-421-11 | CARBON      | 2.2K   | 5% | 1/4W          |          |                |             |        |    |               |
| R226         | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W          |          |                |             |        |    |               |

**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.

## SYSTEM CONTROL

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

| Ref. No. | Part No.     | Description | Remark |    |               | Ref. No. | Part No.     | Description | Remark |    |               |
|----------|--------------|-------------|--------|----|---------------|----------|--------------|-------------|--------|----|---------------|
| R501     | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W          | R538     | 1-247-874-11 | CARBON      | 62K    | 5% | 1/4W (WR775)  |
| R502     | 1-249-434-11 | CARBON      | 27K    | 5% | 1/4W          | R538     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W (WR87ES) |
| R503     | 1-249-417-11 | CARBON      | 1K     | 5% | 1/4W          | R539     | 1-247-864-11 | CARBON      | 24K    | 5% | 1/4W          |
| R504     | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W          | R541     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W          |
| R505     | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W          | R542     | 1-249-417-11 | CARBON      | 1K     | 5% | 1/4W          |
| R506     | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W          | R551     | 1-247-866-11 | CARBON      | 30K    | 5% | 1/4W (WR87ES) |
| R507     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W          | R551     | 1-249-440-11 | CARBON      | 82K    | 5% | 1/4W (WR775)  |
| R521     | 1-247-866-11 | CARBON      | 30K    | 5% | 1/4W (WR87ES) | R552     | 1-249-435-11 | CARBON      | 33K    | 5% | 1/4W (WR87ES) |
| R521     | 1-249-440-11 | CARBON      | 82K    | 5% | 1/4W (WR775)  | R552     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W (WR775)  |
| R522     | 1-247-866-11 | CARBON      | 30K    | 5% | 1/4W (WR87ES) | R553     | 1-247-885-00 | CARBON      | 180K   | 5% | 1/4W (WR775)  |
| R522     | 1-247-870-11 | CARBON      | 43K    | 5% | 1/4W (WR775)  | R553     | 1-247-890-11 | CARBON      | 300K   | 5% | 1/4W (WR87ES) |
| R523     | 1-247-884-11 | CARBON      | 160K   | 5% | 1/4W (WR775)  | R554     | 1-247-888-11 | CARBON      | 240K   | 5% | 1/4W (WR87ES) |
| R523     | 1-247-890-11 | CARBON      | 300K   | 5% | 1/4W (WR87ES) | R554     | 1-249-440-11 | CARBON      | 82K    | 5% | 1/4W (WR775)  |
| R524     | 1-247-880-11 | CARBON      | 110K   | 5% | 1/4W (WR775)  | R555     | 1-249-435-11 | CARBON      | 33K    | 5% | 1/4W          |
| R524     | 1-247-889-00 | CARBON      | 270K   | 5% | 1/4W (WR87ES) | R556     | 1-247-872-11 | CARBON      | 51K    | 5% | 1/4W (WR87ES) |
| R525     | 1-249-435-11 | CARBON      | 33K    | 5% | 1/4W          | R556     | 1-249-435-11 | CARBON      | 33K    | 5% | 1/4W (WR775)  |
| R526     | 1-247-868-11 | CARBON      | 36K    | 5% | 1/4W (WR775)  | R557     | 1-247-883-00 | CARBON      | 150K   | 5% | 1/4W (WR87ES) |
| R526     | 1-249-438-11 | CARBON      | 56K    | 5% | 1/4W (WR87ES) | R557     | 1-247-887-00 | CARBON      | 220K   | 5% | 1/4W (WR775)  |
| R527     | 1-247-883-00 | CARBON      | 150K   | 5% | 1/4W (WR87ES) | R558     | 1-249-434-11 | CARBON      | 27K    | 5% | 1/4W (WR87ES) |
| R527     | 1-247-891-00 | CARBON      | 330K   | 5% | 1/4W (WR775)  | R558     | 1-249-436-11 | CARBON      | 39K    | 5% | 1/4W (WR775)  |
| R528     | 1-247-868-11 | CARBON      | 36K    | 5% | 1/4W (WR775)  | R559     | 1-247-886-11 | CARBON      | 200K   | 5% | 1/4W (WR775)  |
| R528     | 1-249-434-11 | CARBON      | 27K    | 5% | 1/4W (WR87ES) | R559     | 1-247-890-11 | CARBON      | 300K   | 5% | 1/4W (WR87ES) |
| R529     | 1-247-885-00 | CARBON      | 180K   | 5% | 1/4W (WR775)  | R560     | 1-247-891-00 | CARBON      | 330K   | 5% | 1/4W (WR87ES) |
| R529     | 1-247-889-00 | CARBON      | 270K   | 5% | 1/4W (WR87ES) | R560     | 1-247-892-11 | CARBON      | 360K   | 5% | 1/4W (WR775)  |
| R530     | 1-247-868-11 | CARBON      | 36K    | 5% | 1/4W (WR87ES) | R561     | 1-247-870-11 | CARBON      | 43K    | 5% | 1/4W (WR775)  |
| R530     | 1-247-892-11 | CARBON      | 360K   | 5% | 1/4W (WR775)  | R561     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W (WR87ES) |
| R531     | 1-247-870-11 | CARBON      | 43K    | 5% | 1/4W (WR775)  | R562     | 1-247-872-11 | CARBON      | 51K    | 5% | 1/4W (WR87ES) |
| R531     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W (WR87ES) | R562     | 1-249-438-11 | CARBON      | 56K    | 5% | 1/4W (WR775)  |
| R532     | 1-247-872-11 | CARBON      | 51K    | 5% | 1/4W (WR775)  | R563     | 1-247-883-00 | CARBON      | 150K   | 5% | 1/4W (WR775)  |
| R532     | 1-249-438-11 | CARBON      | 56K    | 5% | 1/4W (WR87ES) | R563     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W (WR87ES) |
| R533     | 1-247-883-00 | CARBON      | 150K   | 5% | 1/4W (WR775)  | R564     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W (WR87ES) |
| R533     | 1-247-887-00 | CARBON      | 220K   | 5% | 1/4W (WR87ES) | R564     | 1-249-438-11 | CARBON      | 56K    | 5% | 1/4W (WR775)  |
| R534     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W (WR87ES) | R565     | 1-247-882-11 | CARBON      | 130K   | 5% | 1/4W (WR87ES) |
| R534     | 1-249-438-11 | CARBON      | 56K    | 5% | 1/4W (WR775)  | R565     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W (WR775)  |
| R535     | 1-247-878-00 | CARBON      | 91K    | 5% | 1/4W (WR775)  | R566     | 1-247-872-11 | CARBON      | 51K    | 5% | 1/4W (WR87ES) |
| R535     | 1-247-882-11 | CARBON      | 130K   | 5% | 1/4W (WR87ES) | R566     | 1-249-440-11 | CARBON      | 82K    | 5% | 1/4W (WR775)  |
| R536     | 1-247-872-11 | CARBON      | 51K    | 5% | 1/4W (WR87ES) | R567     | 1-247-872-11 | CARBON      | 51K    | 5% | 1/4W (WR775)  |
| R536     | 1-247-878-00 | CARBON      | 91K    | 5% | 1/4W (WR775)  | R567     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W (WR87ES) |
| R537     | 1-247-872-11 | CARBON      | 51K    | 5% | 1/4W (WR775)  |          |              |             |        |    |               |
| R537     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W (WR87ES) |          |              |             |        |    |               |

**SYSTEM CONTROL**

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

| Ref. No. | Part No.     | Description | Remark |    |               | Ref. No. | Part No.     | Description | Remark |    |               |
|----------|--------------|-------------|--------|----|---------------|----------|--------------|-------------|--------|----|---------------|
| R568     | 1-247-874-11 | CARBON      | 62K    | 5% | 1/4W (WR775)  | R587     | 1-247-864-11 | CARBON      | 24K    | 5% | 1/4W          |
| R568     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W (WR87ES) | R591     | 1-249-409-11 | CARBON      | 220    | 5% | 1/4W          |
|          |              |             |        |    |               | R594     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W          |
| R569     | 1-247-880-11 | CARBON      | 110K   | 5% | 1/4W          | R595     | 1-249-442-11 | CARBON      | 510    | 5% | 1/4W          |
|          |              |             |        |    |               | R598     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W          |
| R570     | 1-247-868-11 | CARBON      | 36K    | 5% | 1/4W (WR775)  |          |              |             |        |    |               |
| R570     | 1-249-435-11 | CARBON      | 33K    | 5% | 1/4W (WR87ES) | R599     | 1-249-417-11 | CARBON      | 1K     | 5% | 1/4W          |
|          |              |             |        |    |               | R602     | 1-247-887-00 | CARBON      | 220K   | 5% | 1/4W          |
| R571     | 1-247-874-11 | CARBON      | 62K    | 5% | 1/4W (WR775)  | R603     | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W          |
| R571     | 1-249-439-11 | CARBON      | 68K    | 5% | 1/4W (WR87ES) | R604     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W          |
|          |              |             |        |    |               | R605     | 1-249-428-11 | CARBON      | 8.2K   | 5% | 1/4W          |
| R572     | 1-247-864-11 | CARBON      | 24K    | 5% | 1/4W (WR87ES) |          |              |             |        |    |               |
| R572     | 1-247-866-11 | CARBON      | 30K    | 5% | 1/4W (WR775)  | R606     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W          |
|          |              |             |        |    |               | R607     | 1-249-417-11 | CARBON      | 1K     | 5% | 1/4W          |
| R573     | 1-247-868-11 | CARBON      | 36K    | 5% | 1/4W          | R608     | 1-249-441-11 | CARBON      | 100K   | 5% | 1/4W          |
|          |              |             |        |    |               | R609     | 1-249-423-11 | CARBON      | 3.3K   | 5% | 1/4W          |
| R574     | 1-247-860-11 | CARBON      | 16K    | 5% | 1/4W (WR87ES) | R701     | 1-249-421-11 | CARBON      | 2.2K   | 5% | 1/4W          |
| R574     | 1-249-432-11 | CARBON      | 18K    | 5% | 1/4W (WR775)  |          |              |             |        |    |               |
|          |              |             |        |    |               | R702     | 1-249-421-11 | CARBON      | 2.2K   | 5% | 1/4W          |
| R575     | 1-247-880-11 | CARBON      | 110K   | 5% | 1/4W (WR775)  | R703     | 1-247-856-00 | CARBON      | 11K    | 5% | 1/4W          |
| R575     | 1-247-881-00 | CARBON      | 120K   | 5% | 1/4W (WR87ES) | R704     | 1-249-428-11 | CARBON      | 8.2K   | 5% | 1/4W          |
|          |              |             |        |    |               | R705     | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W          |
| R576     | 1-247-868-11 | CARBON      | 36K    | 5% | 1/4W (WR775)  | R706     | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W          |
| R576     | 1-249-435-11 | CARBON      | 33K    | 5% | 1/4W (WR87ES) |          |              |             |        |    |               |
|          |              |             |        |    |               | R707     | 1-249-409-11 | CARBON      | 220    | 5% | 1/4W          |
| R577     | 1-249-438-11 | CARBON      | 56K    | 5% | 1/4W (WR775)  | R708     | 1-249-420-11 | CARBON      | 1.8K   | 5% | 1/4W          |
| R577     | 1-249-439-11 | CARBON      | 68K    | 5% | 1/4W (WR87ES) | R709     | 1-249-426-11 | CARBON      | 5.6K   | 5% | 1/4W          |
|          |              |             |        |    |               | R710     | 1-249-422-11 | CARBON      | 2.7K   | 5% | 1/4W          |
| R578     | 1-247-874-11 | CARBON      | 62K    | 5% | 1/4W (WR775)  | R711     | 1-249-430-11 | CARBON      | 12K    | 5% | 1/4W          |
| R578     | 1-249-433-11 | CARBON      | 22K    | 5% | 1/4W (WR87ES) |          |              |             |        |    |               |
|          |              |             |        |    |               | R712     | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W          |
| R579     | 1-247-872-11 | CARBON      | 51K    | 5% | 1/4W (WR87ES) | R713     | 1-249-409-11 | CARBON      | 220    | 5% | 1/4W          |
| R579     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W (WR775)  | R714     | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W          |
|          |              |             |        |    |               | R715     | 1-249-429-11 | CARBON      | 10K    | 5% | 1/4W          |
| R580     | 1-247-866-11 | CARBON      | 30K    | 5% | 1/4W (WR87ES) | R721     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W          |
| R580     | 1-249-436-11 | CARBON      | 39K    | 5% | 1/4W (WR775)  |          |              |             |        |    |               |
|          |              |             |        |    |               | R801     | 1-249-434-11 | CARBON      | 27K    | 5% | 1/4W          |
| R581     | 1-247-880-11 | CARBON      | 110K   | 5% | 1/4W (WR87ES) | R802     | 1-249-434-11 | CARBON      | 27K    | 5% | 1/4W (WR87ES) |
| R581     | 1-247-881-00 | CARBON      | 120K   | 5% | 1/4W (WR775)  | R803     | 1-249-434-11 | CARBON      | 27K    | 5% | 1/4W (WR87ES) |
|          |              |             |        |    |               | R804     | 1-249-434-11 | CARBON      | 27K    | 5% | 1/4W          |
| R582     | 1-247-866-11 | CARBON      | 30K    | 5% | 1/4W (WR87ES) | R805     | 1-247-895-00 | CARBON      | 470K   | 5% | 1/4W          |
| R582     | 1-247-872-11 | CARBON      | 51K    | 5% | 1/4W (WR775)  |          |              |             |        |    |               |
|          |              |             |        |    |               | R806     | 1-247-895-00 | CARBON      | 470K   | 5% | 1/4W          |
| R583     | 1-247-870-11 | CARBON      | 43K    | 5% | 1/4W (WR775)  | R807     | 1-247-895-00 | CARBON      | 470K   | 5% | 1/4W          |
| R583     | 1-249-439-11 | CARBON      | 68K    | 5% | 1/4W (WR87ES) | R808     | 1-247-895-00 | CARBON      | 470K   | 5% | 1/4W          |
|          |              |             |        |    |               | R809     | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W          |
| R584     | 1-249-431-11 | CARBON      | 15K    | 5% | 1/4W (WR87ES) | R810     | 1-247-862-11 | CARBON      | 20K    | 5% | 1/4W          |
| R584     | 1-249-433-11 | CARBON      | 22K    | 5% | 1/4W (WR775)  |          |              |             |        |    |               |
|          |              |             |        |    |               | R811     | 1-249-425-11 | CARBON      | 4.7K   | 5% | 1/4W          |
| R585     | 1-247-872-11 | CARBON      | 51K    | 5% | 1/4W (WR87ES) | R812     | 1-247-862-11 | CARBON      | 20K    | 5% | 1/4W          |
| R585     | 1-249-438-11 | CARBON      | 56K    | 5% | 1/4W (WR775)  | R813     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W          |
|          |              |             |        |    |               | R814     | 1-247-866-11 | CARBON      | 30K    | 5% | 1/4W          |
| R586     | 1-247-868-11 | CARBON      | 36K    | 5% | 1/4W (WR775)  | R815     | 1-249-434-11 | CARBON      | 27K    | 5% | 1/4W          |
| R586     | 1-249-434-11 | CARBON      | 27K    | 5% | 1/4W (WR87ES) |          |              |             |        |    |               |
|          |              |             |        |    |               | R816     | 1-247-872-11 | CARBON      | 51K    | 5% | 1/4W          |
|          |              |             |        |    |               | R818     | 1-247-872-11 | CARBON      | 51K    | 5% | 1/4W          |
|          |              |             |        |    |               | R819     | 1-249-405-11 | CARBON      | 100    | 5% | 1/4W          |
|          |              |             |        |    |               | R820     | 1-249-437-11 | CARBON      | 47K    | 5% | 1/4W          |

## SYSTEM CONTROL

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

| Ref. No. | Part No.       | Description | Remark |    |               |
|----------|----------------|-------------|--------|----|---------------|
| R821     | 1-247-866-11   | CARBON      | 30K    | 5% | 1/4W          |
| R822     | 1-249-434-11   | CARBON      | 27K    | 5% | 1/4W          |
| R823     | 1-247-872-11   | CARBON      | 51K    | 5% | 1/4W          |
| R825     | 1-249-405-11   | CARBON      | 100    | 5% | 1/4W          |
| R826     | 1-247-872-11   | CARBON      | 51K    | 5% | 1/4W          |
| R827     | 1-249-441-11   | CARBON      | 100K   | 5% | 1/4W          |
| R828     | 1-249-429-11   | CARBON      | 10K    | 5% | 1/4W          |
| R829     | 1-249-429-11   | CARBON      | 10K    | 5% | 1/4W          |
| R830     | 1-249-429-11   | CARBON      | 10K    | 5% | 1/4W          |
| R831     | 1-249-429-11   | CARBON      | 10K    | 5% | 1/4W          |
| R832     | 1-249-417-11   | CARBON      | 1K     | 5% | 1/4W          |
| R833     | 1-249-438-11   | CARBON      | 56K    | 5% | 1/4W          |
| R858     | 1-247-862-11   | CARBON      | 20K    | 5% | 1/4W (WR775)  |
| R858     | 1-249-432-11   | CARBON      | 18K    | 5% | 1/4W (WR87ES) |
| R859     | 1-247-866-11   | CARBON      | 30K    | 5% | 1/4W (WR87ES) |
| R859     | 1-249-437-11   | CARBON      | 47K    | 5% | 1/4W (WR775)  |
| R860     | 1-247-858-11   | CARBON      | 13K    | 5% | 1/4W (WR775)  |
| R860     | 1-249-429-11   | CARBON      | 10K    | 5% | 1/4W (WR87ES) |
| R862     | 1-247-862-11   | CARBON      | 20K    | 5% | 1/4W (WR775)  |
| R862     | 1-249-428-11   | CARBON      | 8.2K   | 5% | 1/4W (WR87ES) |
| R863     | 1-249-437-11   | CARBON      | 47K    | 5% | 1/4W (WR775)  |
| R863     | 1-249-446-11   | CARBON      | 4.3K   | 5% | 1/4W (WR87ES) |
| R864     | 1-247-858-11   | CARBON      | 13K    | 5% | 1/4W (WR775)  |
| R865     | 1-247-852-11   | CARBON      | 7.5K   | 5% | 1/4W (WR87ES) |
| R868     | 1-249-429-11   | CARBON      | 10K    | 5% | 1/4W          |
| R869     | 1-249-429-11   | CARBON      | 10K    | 5% | 1/4W          |
| R870     | 1-249-429-11   | CARBON      | 10K    | 5% | 1/4W          |
| R874     | 1-247-903-00   | CARBON      | 1M     | 5% | 1/4W          |
| R891     | 1-249-429-11   | CARBON      | 10K    | 5% | 1/4W          |
| R892     | 1-249-429-11   | CARBON      | 10K    | 5% | 1/4W          |
| R893     | 1-249-415-11   | CARBON      | 680    | 5% | 1/4W          |
| R894     | 1-249-415-11   | CARBON      | 680    | 5% | 1/4W          |
| R0391    | 1-249-428-11   | CARBON      | 8.2K   | 5% | 1/4W (WR87ES) |
| R0391    | 1-249-430-11   | CARBON      | 12K    | 5% | 1/4W (WR775)  |
| R0392    | 1-247-883-00   | CARBON      | 150K   | 5% | 1/4W (WR775)  |
| R0392    | 1-247-884-11   | CARBON      | 160K   | 5% | 1/4W (WR87ES) |
| R0393    | △ 1-212-857-00 | FUSIBLE     | 10     | 5% | 1/4W F        |
| R0394    | 1-249-431-11   | CARBON      | 15K    | 5% | 1/4W (WR775)  |
| R0394    | 1-249-432-11   | CARBON      | 18K    | 5% | 1/4W (WR87ES) |
| R0395    | 1-247-854-11   | CARBON      | 9.1K   | 5% | 1/4W (WR87ES) |
| R0395    | 1-247-862-11   | CARBON      | 20K    | 5% | 1/4W (WR775)  |

| Ref. No. | Part No.       | Description | Remark |    |               |
|----------|----------------|-------------|--------|----|---------------|
| R0491    | 1-249-428-11   | CARBON      | 8.2K   | 5% | 1/4W (WR87ES) |
| R0491    | 1-249-430-11   | CARBON      | 12K    | 5% | 1/4W (WR775)  |
| R0492    | 1-247-883-00   | CARBON      | 150K   | 5% | 1/4W (WR775)  |
| R0492    | 1-247-884-11   | CARBON      | 160K   | 5% | 1/4W (WR87ES) |
| R0493    | △ 1-212-857-00 | FUSIBLE     | 10     | 5% | 1/4W F        |
| R0494    | 1-249-431-11   | CARBON      | 15K    | 5% | 1/4W (WR775)  |
| R0494    | 1-249-432-11   | CARBON      | 18K    | 5% | 1/4W (WR87ES) |
| R0495    | 1-247-854-11   | CARBON      | 9.1K   | 5% | 1/4W (WR87ES) |
| R0495    | 1-247-862-11   | CARBON      | 20K    | 5% | 1/4W (WR775)  |

## &lt; VARIABLE RESISTOR &gt;

|        |              |                                                    |
|--------|--------------|----------------------------------------------------|
| RV121  | 1-238-600-11 | RES. ADJ. CARBON 10K                               |
| RV122  | 1-238-600-11 | RES. ADJ. CARBON 10K                               |
| RV221  | 1-238-600-11 | RES. ADJ. CARBON 10K                               |
| RV222  | 1-238-600-11 | RES. ADJ. CARBON 10K                               |
| RV391  | 1-238-548-11 | RES. ADJ. CARBON 22K                               |
| RV491  | 1-238-548-11 | RES. ADJ. CARBON 22K                               |
| RV501  | 1-238-953-11 | RES. VAR. CARBON 50K/50K<br>(BALANCE) (WR87ES)     |
| RV502  | 1-241-133-11 | RES. VAR. CARBON 50K/50K<br>(REC LEVEL) (WR87ES)   |
| RV503  | 1-238-085-11 | RES. VAR. CARBON 20K/20K<br>(PHONE LEVEL) (WR87ES) |
| RV0391 | 1-238-548-11 | RES. ADJ. CARBON 22K                               |
| RV0491 | 1-238-548-11 | RES. ADJ. CARBON 22K                               |

## &lt; SWITCH &gt;

|      |                |                                |
|------|----------------|--------------------------------|
| S501 | 1-571-083-11   | SWITCH, SLIDE (POWER) (WR87ES) |
| S701 | △ 1-554-118-00 | SWITCH, PUSH (1 KEY) (POWER)   |

## &lt; TRANSFORMER &gt;

|       |              |                                        |
|-------|--------------|----------------------------------------|
| T391  | 1-433-335-11 | TRANSFORMER, BIAS OSCILLATION (WR87ES) |
| T391  | 1-433-367-11 | TRANSFORMER, BIAS OSCILLATION (WR775)  |
| T491  | 1-433-335-11 | TRANSFORMER, BIAS OSCILLATION (WR87ES) |
| T491  | 1-433-367-11 | TRANSFORMER, BIAS OSCILLATION (WR775)  |
| T0391 | 1-433-335-11 | TRANSFORMER, BIAS OSCILLATION (WR87ES) |
| T0391 | 1-433-367-11 | TRANSFORMER, BIAS OSCILLATION (WR775)  |
| T0491 | 1-433-335-11 | TRANSFORMER, BIAS OSCILLATION (WR87ES) |
| T0491 | 1-433-367-11 | TRANSFORMER, BIAS OSCILLATION (WR775)  |

## &lt; TEST PIN &gt;

|        |                |                    |
|--------|----------------|--------------------|
| TP1    | * 1-564-505-11 | PLUG, CONNECTOR 2P |
| TP2    | * 1-564-506-11 | PLUG, CONNECTOR 3P |
| TP691  | * 1-564-520-11 | PLUG, CONNECTOR 5P |
| TP0691 | * 1-564-520-11 | PLUG, CONNECTOR 5P |

## 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.

**SYSTEM CONTROL**

INCLUDING HX PRO(A), HX PRO(B), TRANSLATION(A), TRANSLATION(B), MPX, POWER SW

| Ref. No. | Part No. | Description | Remark |
|----------|----------|-------------|--------|
|----------|----------|-------------|--------|

&lt; CERAMIC &gt;

X801 1-577-358-21 VIBRATOR, CERAMIC (4MHZ)

\*\*\*\*\*

MISCELLANEOUS

\*\*\*\*\*

11    △ 1-551-506-XX CORD, POWER (WR775)  
 11    △ 1-555-465-00 CORD, POWER (WR87ES)  
 76    \* 1-575-847-11 WIRE, FLAT TYPE (5 CORE)  
 77    \* 1-575-851-11 WIRE, FLAT TYPE (7 CORE)  
 78    \* 1-575-848-11 WIRE, FLAT TYPE (5 CORE)  
 79    \* 1-575-853-11 WIRE, FLAT TYPE (15 CORE)  
 80    1-534-517-00 WIRE, FLAT TYPE (11 CORE)  
 81    \* 1-575-780-11 WIRE, FLAT TYPE (7 CORE)  
 82    \* 1-575-850-11 WIRE, FLAT TYPE (9 CORE)  
 83    \* 1-575-781-11 WIRE, FLAT TYPE (9 CORE)

136    \* 1-575-847-11 WIRE, FLAT TYPE (5 CORE)  
 137    \* 1-575-851-11 WIRE, FLAT TYPE (7 CORE)  
 138    \* 1-575-848-11 WIRE, FLAT TYPE (5 CORE)  
 139    \* 1-575-853-11 WIRE, FLAT TYPE (15 CORE)  
 140    1-534-517-00 WIRE, FLAT TYPE (11 CORE)  
 141    \* 1-575-780-11 WIRE, FLAT TYPE (7 CORE)  
 142    \* 1-575-850-11 WIRE, FLAT TYPE (9 CORE)  
 143    \* 1-575-781-11 WIRE, FLAT TYPE (9 CORE)

F701    △ 1-532-742-11 FUSE, GLASS TUBE (1.6A/125V)  
 F702    △ 1-532-742-11 FUSE, GLASS TUBE (1.6A/125V)  
 HRPE101    A-2003-420-A BASE ASSY, HEAD (REC/PB/ERASE) (WR87ES)  
 HRPE101    A-2003-477-A BASE ASSY, HEAD (REC/PB/ERASE) (WR775)  
 M1        X-3359-417-1 MOTOR ASSY (CAPSTAN)  
 M2        A-2003-474-A MOTOR ASSY (REEL)  
 S87        1-572-393-11 SWITCH, LEAF (DIRECTION)  
 T701    △ 1-450-431-11 TRANSFORMER, POWER

\*\*\*\*\*

ACCESSORY &amp; PACKING MATERIAL

\*\*\*\*\*

1-559-533-11 CORD, CONNECTION  
 \* 3-354-918-61 INDIVIDUAL CARTON  
 \* 3-354-918-71 INDIVIDUAL CARTON (WR87ES)  
 \* 3-359-942-01 CUSHION  
 3-703-450-01 INSTRUCTION (WR87ES/WR775:US)  
 \* 3-704-343-01 SHEET (STANDARD), PROTECTION  
 3-753-337-21 MANUAL, INSTRUCTION (ENGLISH) (WR87ES)  
 3-753-338-21 MANUAL, INSTRUCTION (ENGLISH)  
 3-753-388-31 MANUAL, INSTRUCTION  
 (WR775:Canadian, FRENCH)

| Ref. No. | Part No. | Description | Remark |
|----------|----------|-------------|--------|
|----------|----------|-------------|--------|

**HARDWARE LIST**

# 1    7-682-548-09 SCREW +BVTT 3X8 (S)  
 # 2    7-621-849-00 SCREW (BV/RING)  
 # 3    7-685-646-79 SCREW +BVTP 3X8 TYPE2 SLIT  
 # 4    7-682-547-04 SCREW +BVTT 3X6 (S)  
 # 5    7-682-547-09 SCREW +BVTT 3X6 (S)  
 # 6    7-621-775-10 SCREW +B 2.6X4 (WR87ES)  
  
 # 7    7-621-773-95 SCREW +BVTT 2.6X6 (S)  
 # 8    7-685-534-19 SCREW +BTP 2.6X8 TYPE2 N-S (WR87ES)  
 # 9    7-621-770-67 SCREW +BVTT 2.6X6 (S) (WR87ES)  
 #10    7-627-556-08 SCREW +P 2.6X2.8  
 #11    7-621-775-00 SCREW +B 2.6X3  
 #12    7-621-773-93 SCREW (PANEL 2.6 TP2) (WR775)

**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.



# TC-WR87ES/WR775

## SONY<sup>®</sup> SERVICE MANUAL

US Model  
Canadian Model

TC-WR775

US Model  
TC-WR87ES

## CORRECTION-1

File this correction with the service manual.

 :Correct Portion

### 1. SECTION 4 ELECTRICAL ADJUSTMENTS (Service Manual Page 9.)

Playback Level Adjustment

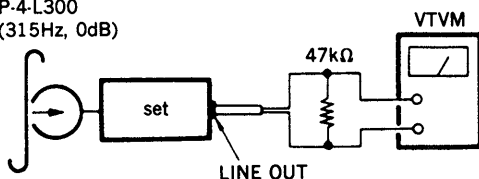
DECK A

DECK B

Procedure :

—Forward Playback Mode—

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



Adjust each RV11 (L-CH) and RV21 (R-CH) so that the VTVM reading becomes within adjustment limits below on both of deck A and deck B.

Adjustment Limits :

LINE OUT level :  $-5 \pm 0.5\text{dB}$  (0.412 to 0.461V)

Level difference between channels : within 0.5dB

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

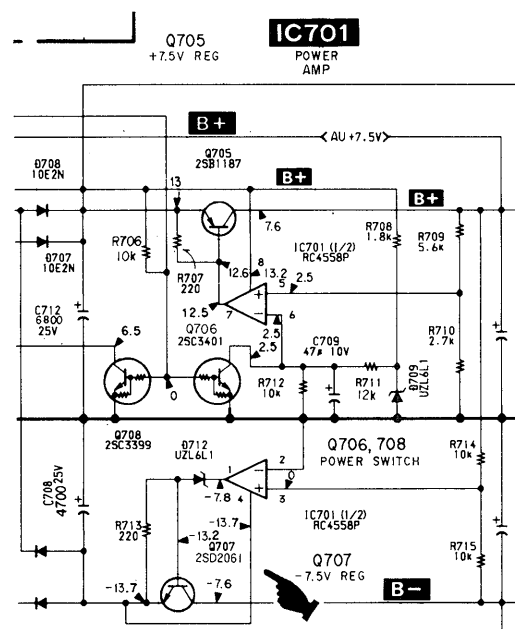
Adjustment Location : MD(C) board (deck A, deck B)  
(See page 10)

### 3. SECTION 7 ELECTRICAL PARTS LIST (Service Manual Page 40.)

| Ref. No. | Part No.     | Description            | Remark |
|----------|--------------|------------------------|--------|
| Q701     | 8-729-906-97 | TRANSISTOR 2SD2061-F   |        |
| Q702     | 8-729-620-05 | TRANSISTOR 2SC2603-EF  |        |
| Q703     | 8-729-821-04 | TRANSISTOR 2SA1317-STU |        |
| Q704     | 8-729-924-90 | TRANSISTOR 2SB1370-EF  |        |
| Q705     | 8-729-924-90 | TRANSISTOR 2SB1370-EF  |        |
| Q706     | 8-729-900-85 | TRANSISTOR DTC144WS    |        |
| Q707     | 8-729-906-97 | TRANSISTOR 2SD2061-F   |        |

### 2. SECTION 5 DIAGRAMS

Service Manual Page 20.  
(Location G~J—8~10)



Sony Corporation  
Audio Group

9-956-430-91

English  
91F1834-1  
Printed in Japan  
©1991.6

Published by Customer Relations and Service Group