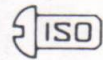


# MULTI-BAND RADIO CASSETTE RECORDER

## MODEL TPR-216 EE, UK

# AIWA®

## (SERVICE MANUAL)



Set using ISO screws



DATE OF ISSUE 25/1/1977

### SPECIFICATIONS

|                              |  |                         |   |
|------------------------------|--|-------------------------|---|
| <b>Type:</b>                 | 4-band (FM/SW/MW/LW) radio-cassette recorder   | <b>Radio Section</b>    |   |
| <b>Circuitry:</b>            | 18 transistors, 15 diodes, 1 LED, 1 IC   | <b>Frequency range:</b> | FM 87.5–108 MHz (3.43–2.87m)<br>SW 5.9–18 MHz (50.9–16.6m)<br>MW 525–1605 kHz (571–187m)<br>LW 150–300 kHz (2,000–1,000m) |
| <b>Power source:</b>         | Batteries, DC 6V (UM-1 x 4)<br>AC 110-120V/220-240V (switchable)<br>Car battery (thru car adapter) | <b>Antenna:</b>         | Whip antenna for FM and SW<br>Ferrite bar antenna for MW and LW   |
| <b>Output:</b>               | 2500 mW, Max.  | <b>Dimensions:</b>      | 367 x 228 x 98 mm   |
| <b>Power consumption:</b>    | 9.5 W  | <b>Weight:</b>          | 2.8 kgs (w/o batteries)   |
| <b>Frequency response:</b>   | Normal tape: 50–10,000 Hz<br>CrO <sub>2</sub> tape: 50–12,000 Hz                                   | <b>Accessories:</b>     | AC power cord 1<br>Cassette tape 1<br>Battery (Super UM-1) 4<br>Erase plug 1<br>Carrying case (EE model only) 1           |
| <b>Speaker:</b>              | 100 x 150 mm oval type, 8 ohms   |                         |   |
| <b>Tape Recorder Section</b> |  |                         |   |
| <b>Built-in microphone:</b>  | Electret condenser microphone  |                         |   |
| <b>Tape speed:</b>           | 4.8 cm/sec   |                         |   |
| <b>Recording system:</b>     | AC bias  |                         |   |
| <b>Erasing system:</b>       | AC erasure   |                         |   |
| <b>Recording time:</b>       | 90 min. (two ways, C-90 cassette)  |                         |   |
| <b>S/N ratio:</b>            | 55 dB  |                         |   |
| <b>Wow &amp; flutter:</b>    | 0.14 % (WRMS)  |                         |   |

The specifications and external appearance of this set are subject to change without prior notice.



## DISASSEMBLY INSTRUCTIONS

### 1. To Remove Back Cover

- 1) Remove 5 screws.  
(Refer to Fig. 1)

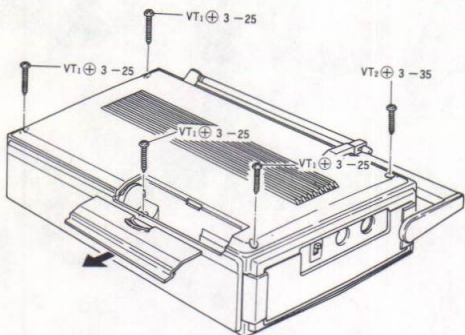


Fig. 1

### 2. To Remove Chassis

- 1) Pull out the control knobs.
- 2) Remove 7 screws.  
(Refer to Fig. 2)

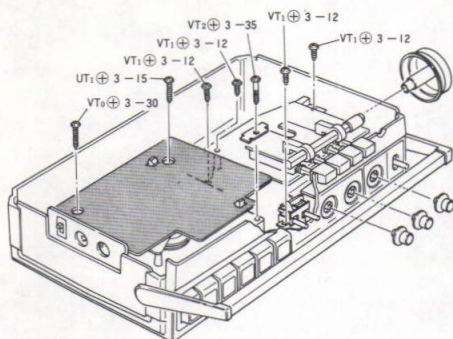


Fig. 2

### 3. To Remove REC/PB Circuit Board

- 1) Press 2 tabs in direction shown by arrows to remove circuit board.  
(Refer to Fig. 3)

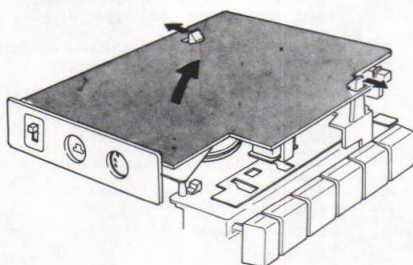


Fig. 3

### 4. To Remove AFC Switch Circuit Board

- 1) Remove 2 screws.  
(Refer to Fig. 4)

### 5. To Remove Volume Circuit Board

- 1) Remove 3 nuts.  
(Refer to Fig. 4)

### 6. To Remove Tape Selector Switch Circuit Board

- 1) Remove 2 screws.  
(Refer to Fig. 4)

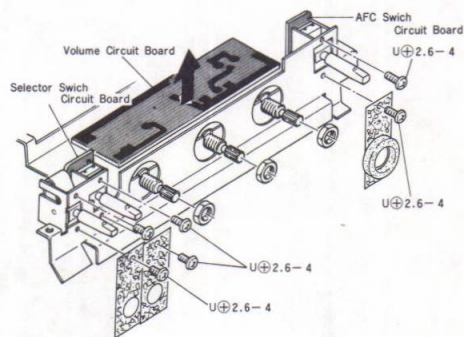


Fig. 4

### 7. To Remove Tuner Circuit Board

- 1) Remove E ring and washer.
- 2) Remove 3 screws.  
(Refer to Fig. 5)

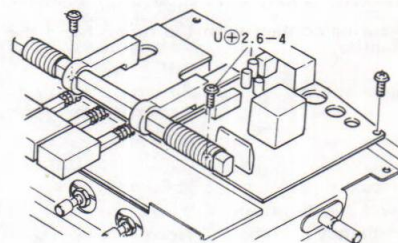
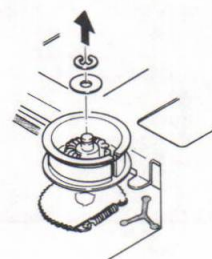


Fig. 5

## 8. To Remove Power Circuit Board

- 1) Remove 2 screws.  
(Refer to Fig. 6)

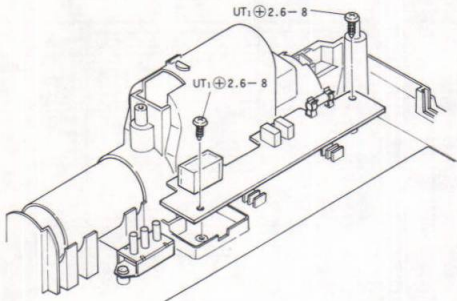


Fig. 6

## ADJUSTMENTS

### ■ Mechanical Section

#### 1. Thrust

Turn thrust adjusting screw in direction shown by arrow. Adjust for  $0.2 \pm 0.1$  mm spacing between screw and flywheel.  
(Refer to Fig. 7)

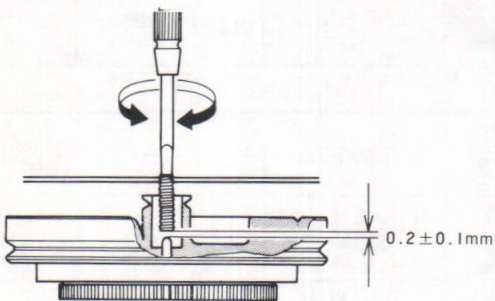


Fig. 7

#### 2. Pause Spring

- 1) Confirm that pause spring lightly contacts the slider when slider tip is contacted at left side of worm wheel.
- 2) If space occurs between pause spring and slider due to strong pause spring contact with the slider, bend the pause spring so that the slider becomes lightly contacted. (Refer to Fig. 8)

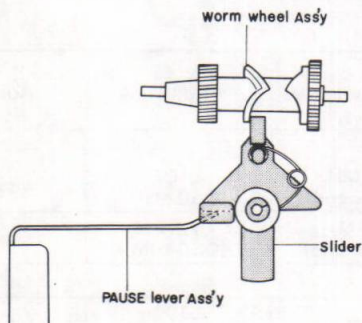


Fig. 8

#### 3. Tape Speed

$\pm 3\%$

Use a standard test tape, TTA-111 (3 kHz) or equivalent.

#### 4. Pinch Roller Pressure

$300 \begin{matrix} +50 \\ -0 \end{matrix}$  g.

#### 5. Wow and Flutter

$0.12 \pm 0.06\%$  (WRMS) PB

Use a standard test tape, TTA-111 (3 kHz) or equivalent.

#### 6. Take-up Torque

$50 \pm 10$  g-cm.

#### 7. Rewind Torque

$100 \pm 10$  g-cm.

#### 8. FF Torque

$100 \pm 10$  g-cm.

#### 9. Rewind Time

$80 \pm 5$  sec. (at C-60 cassette tape).

#### 10. FF Time

$80 \pm 5$  sec. (at C-60 cassette tape).

#### 11. Current Consumption

FWD:  $105 \pm 20$  mA  
FFWD:  $160 \pm 25$  mA  
REW:  $160 \pm 25$  mA  
(Mechanism unit only)



**ADJUSTMENTS OF RADIO SECTION**

**1. Instruments Required**

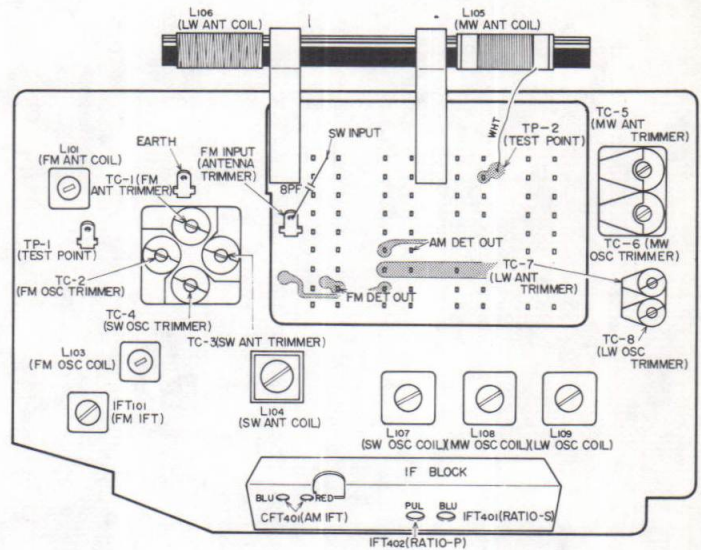
**Signal Source**

1. RF Signal generator (AM, FM).
2. IF sweep generator (Centered 455 kHz/468 kHz for AM and 10.7 MHz for FM).
3. Loop antenna
4. Capacitor 8pF

**Output Indicator**

1. V.T.V.M.
2. Oscilloscope

**Locations of Main Parts**



**Regulator Adjusting Steps**

| For band   | For stages on each band                                |
|------------|--|
| 1. AM (MW) | 1st: IF<br>2nd: RF frequency range<br>3rd: RF tracking |
| 2. SW      | 1st: RF frequency range<br>2nd: RF tracking            |
| 3. LW      | 1st: RF frequency range<br>2nd: RF tracking            |
| 4. FM      | 1st: IF<br>2nd: RF frequency range<br>3rd: RF tracking |

**AM-IF Alignment**

| Step | Signal source    | Set signal to  | Alignment indicator | Set radio dial to | Adjust  | Adjust for |
|------|------------------|--|---------------------|-------------------|---------|------------|
|      | Connect to       |  | Connect to          |                   |         |            |
| 1    | AM IF sweep gen. | Sweep centered<br>455 kHz EE model<br>468 kHz UK model | Oscilloscope        | Min. Freq.        | CFT 401 | Maximum    |
|      | Test point TP-2  |  | AM det. output tab  |                   |         |            |

**MW-RF Alignment**

| Step | Signal source   | Set signal to             | Alignment indicator | Set radio dial to      | Adjust              | Adjust for |
|------|---|---------------------------|---------------------|------------------------|---------------------|------------|
|      | Connect to  |                           | Connect to          |                        |                     |            |
| 1    | AM signal gen.  | MW 515 kHz<br>(Modulated) | V.T.V.M.            | 515 kHz<br>(Low end)   | L108<br>(OSC coil)  | Maximum    |
|      | Loop antenna  |                           | AM det. output tab  |                        |                     |            |
| 2    | Loop antenna  | 1650 kHz<br>(Modulated)   | AM det. output tab  | 1650 kHz<br>(High end) | TC-6<br>(OSC trim.) | Maximum    |
| 3    | (Repeat steps 1 and 2 to obtain frequency range.)                             |                           |                     |                        |                     |            |
| 4    | Loop antenna  | 600 kHz<br>(Modulated)    | AM det. output tab  | 600 kHz                | L105<br>(ANT coil)  | Maximum    |
| 5    | Loop antenna  | 1400 kHz<br>(Modulated)   | AM det. output tab  | 1400 kHz               | TC-5<br>(ANT trim.) | Maximum    |
| 6    | (Repeat steps 4 and 5 minimize tracking error, and also step 3 if necessary.) |                           |                     |                        |                     |            |

**SW-RF Alignment**

| Step | Signal source  | Set signal to             | Alignment indicator | Set radio dial         | Adjust              | Adjust for |
|------|--|---------------------------|---------------------|------------------------|---------------------|------------|
|      | Connect to   |                           | Connect to          |                        |                     |            |
| 1    | AM signal gen.   | SW 5.8 MHz<br>(Modulated) | V.T.V.M.            | 5.8 MHz<br>(Low end)   | L107<br>(OSC coil)  | Maximum    |
|      | Antenna terminal   |                           | AM det. output tab  |                        |                     |            |
| 2    | Antenna terminal   | 18.5 MHz<br>(Modulated)   | AM det. output tab  | 18.5 MHz<br>(High end) | TC-4<br>(OSC trim.) | Maximum    |
| 3    | (Repeat steps 1 and 2 to obtain frequency range.)                                |                           |                     |                        |                     |            |
| 4    | Antenna terminal   | 5.8 MHz<br>(Modulated)    | AM det. output tab  | 5.8 MHz                | L104<br>(ANT coil)  | Maximum    |
| 5    | Antenna terminal   | 18.5 MHz<br>(Modulated)   | AM det. output tab  | 18.5 MHz               | TC-3<br>(ANT trim)  | Maximum    |
| 6    | (Repeat steps 4 and 5 to minimize tracking error, and also step 3 if necessary.) |                           |                     |                        |                     |            |



## LW-RF Alignment

| Step | Signal source  | Set signal to             | Alignment indicator   | Set radio dial to     | Adjust              | Adjust for |
|------|--|---------------------------|-----------------------|-----------------------|---------------------|------------|
|      | Connect to   |                           | Connect to            |                       |                     |            |
| 1    | AM signal gen.   | LW 145 kHz<br>(Modulated) | V.T.V.M.              | 145 kHz<br>(Low end)  | L109<br>(OSC coil)  | Maximum    |
|      | Loop antenna   |                           | AM det.<br>output tab |                       |                     |            |
| 2    | Loop antenna   | 310 kHz<br>(Modulated)    | AM det.<br>output tab | 310 kHz<br>(High end) | TC-8<br>(OSC trim.) | Maximum    |
| 3    | (Repeat steps 1 and 2 to obtain frequency range.)                                |                           |                       |                       |                     |            |
| 4    | Loop antenna   | 145 kHz<br>(Modulated)    | AM det.<br>output tab | 145 kHz               | L106<br>(ANT coil)  | Maximum    |
| 5    | Loop antenna   | 310 kHz<br>(Modulated)    | AM det.<br>output tab | 310 kHz               | TC-7<br>(ANT trim.) | Maximum    |
| 6    | (Repeat steps 4 and 5 to minimize tracking error, and also step 3 if necessary.) |                           |                       |                       |                     |            |

## FM-RF Alignment

| Step | Signal source   | Set signal to          | Alignment indicator   | Set radio dial to | Adjust              | Adjust for |
|------|---|------------------------|-----------------------|-------------------|---------------------|------------|
|      | Connect to  |                        | Connect to            |                   |                     |            |
| 1    | FM signal gen.  | 88 MHz<br>(Modulated)  | V.T.V.M.              | 88 MHz            | L103<br>(OSC coil)  | Maximum    |
|      | Antenna terminal  |                        | FM det.<br>output tab |                   |                     |            |
| 2    | Antenna terminal  | 107 MHz<br>(Modulated) | FM det.<br>output tab | 107 MHz           | TC-2<br>(OSC trim.) | Maximum    |
| 3    | (Repeat steps 1 and 2 to obtain frequency range.)                           |                        |                       |                   |                     |            |
| 4    | Antenna terminal  | 88 MHz<br>(Modulated)  | FM det.<br>output tab | 88 MHz            | L101<br>(ANT coil)  | Maximum    |
| 5    | Antenna terminal  | 107 MHz<br>(Modulated) | FM det.<br>output tab | 107 MHz           | TC-1<br>(ANT trim.) | Maximum    |
| 6    | (Repeat steps 4 and 5 to minimize tracking error, and step 3 if necessary.) |                        |                       |                   |                     |            |

## FM-IF Alignment

| Step | Signal source  | Set signal to              | Alignment indicator   | Set radio dial to | Adjust           | Adjust for  |
|------|--|----------------------------|-----------------------|-------------------|------------------|---|
|      | Connect to   |                            | Connect to            |                   |                  |   |
| 1    | FM IF sweep gen.   | Sweep centered<br>10.7 MHz | Oscilloscope          | Max. Freq.        | IFT101<br>IFT402 | Max.<br>Symmetrical<br>response.<br>equal heights |
|      | Test point TP-1  |                            | FM det.<br>output tab |                   |                  |   |
| 2    | Test point TP-1  | Sweep centered<br>10.7 MHz | FM det.<br>output tab | Max. Freq.        | IFT401           | Symmetrical<br>response.<br>centered<br>10.7 MHz  |
| 3    | (Repeat 1 and 2 to obtain a balanced "S" curve linearity.) |                            |                       |                   |                  |   |

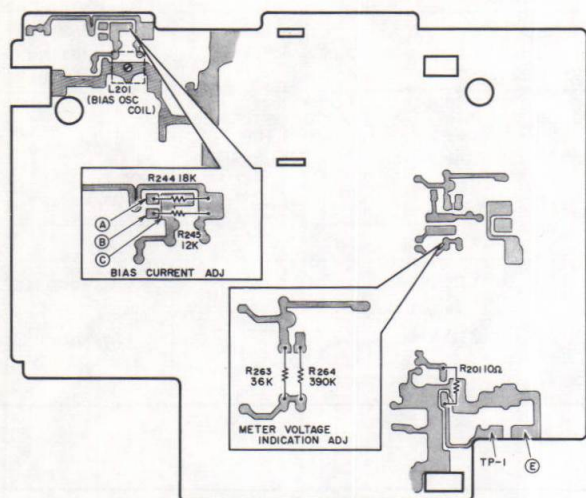
## How to change the upper limit of FM frequency range from 108 MHz to 104 MHz.

| Symbol No.   | Description                  | 108 MHz      |                                | 104 MHz      |                                |
|--------------|------------------------------|--------------|--------------------------------|--------------|--------------------------------|
|              |                              | 1-½t<br>13pF | 87-006-015-01<br>88-212-130-01 | 1-½t<br>20pF | 87-006-036-01<br>88-213-200-01 |
| L103<br>C110 | FM Coil<br>Ceramic capacitor |              |                                |              |                                |



**TAPE RECORDER SECTION**

■ **Locations of Main Parts**



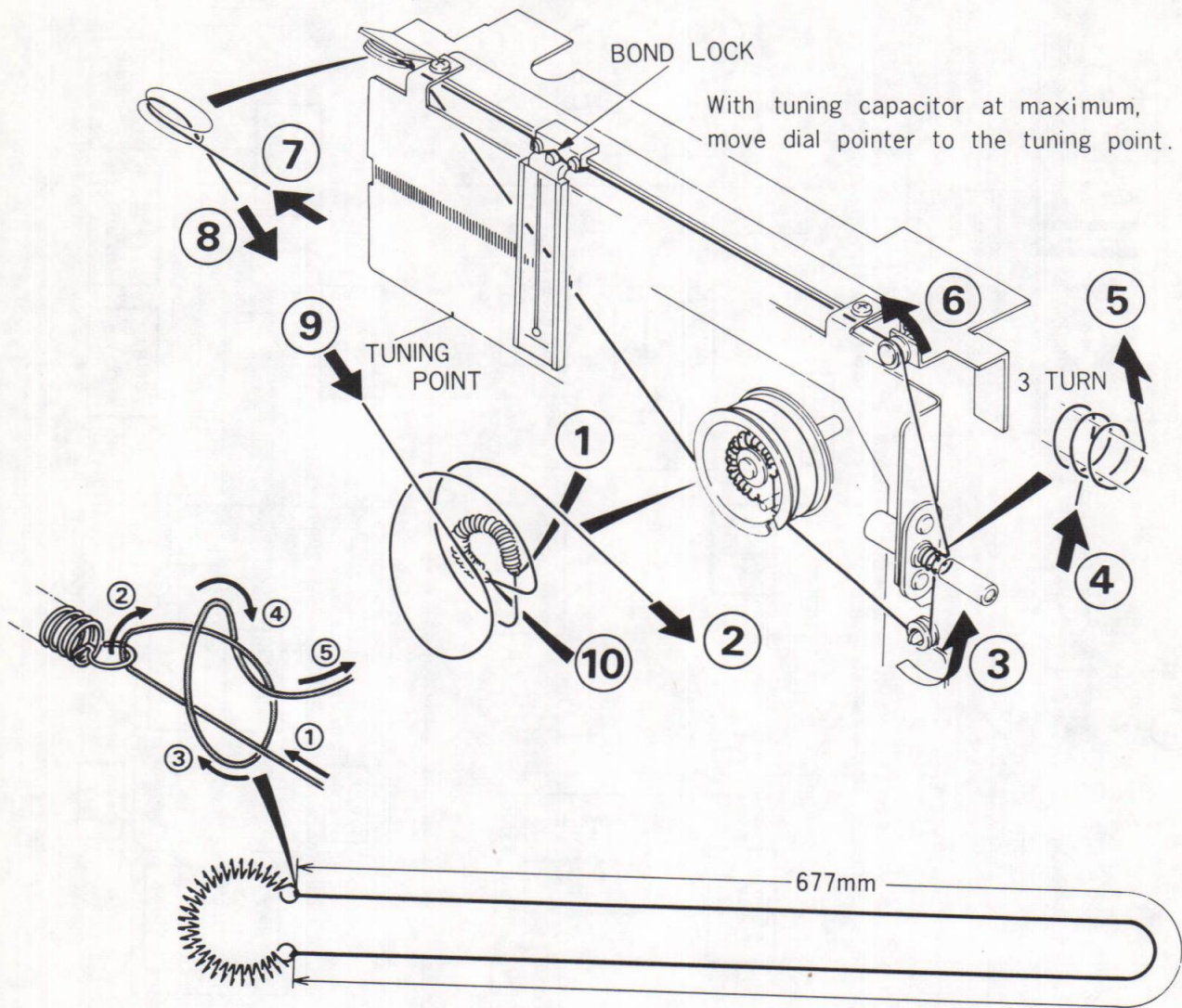
**Meter Voltage Indication Adjustment**

- (1) Adjust stabilized DC power supply for 4.5V and apply to the battery terminals of the set.
- (2) Adjust voltage indication resistor R264 390kΩ for an indication within the red and yellow limits inside the meter. Adjust so that meter indication increases when R264 pattern is shorted.

| Adjustment Item    | Test Point   | Adjustment Location  | Specification  |
|--------------------|--------------|--|--|
| Azimuth            | EXT. SP jack | Head azimuth screw   | Test tape TTA-117D   |
| Bias OSC Frequency | TP-1 (R201)  | L201   | OSC switch<br>Center position: 52 kHz<br>"●" position: 51.5 kHz<br>"●●" position: 53 kHz |
| Bias Current       | TP-1 (R201)  | Adjust with bias current adjusting resistors (R244 18kΩ and R245 12kΩ).<br>Perform adjustment by connecting circuit patterns A and B to pattern C in order to reduce bias current. | 625μA ± 25μA<br>(6.25mV ± 0.25μV)  |



DIAL CORD STRINGING

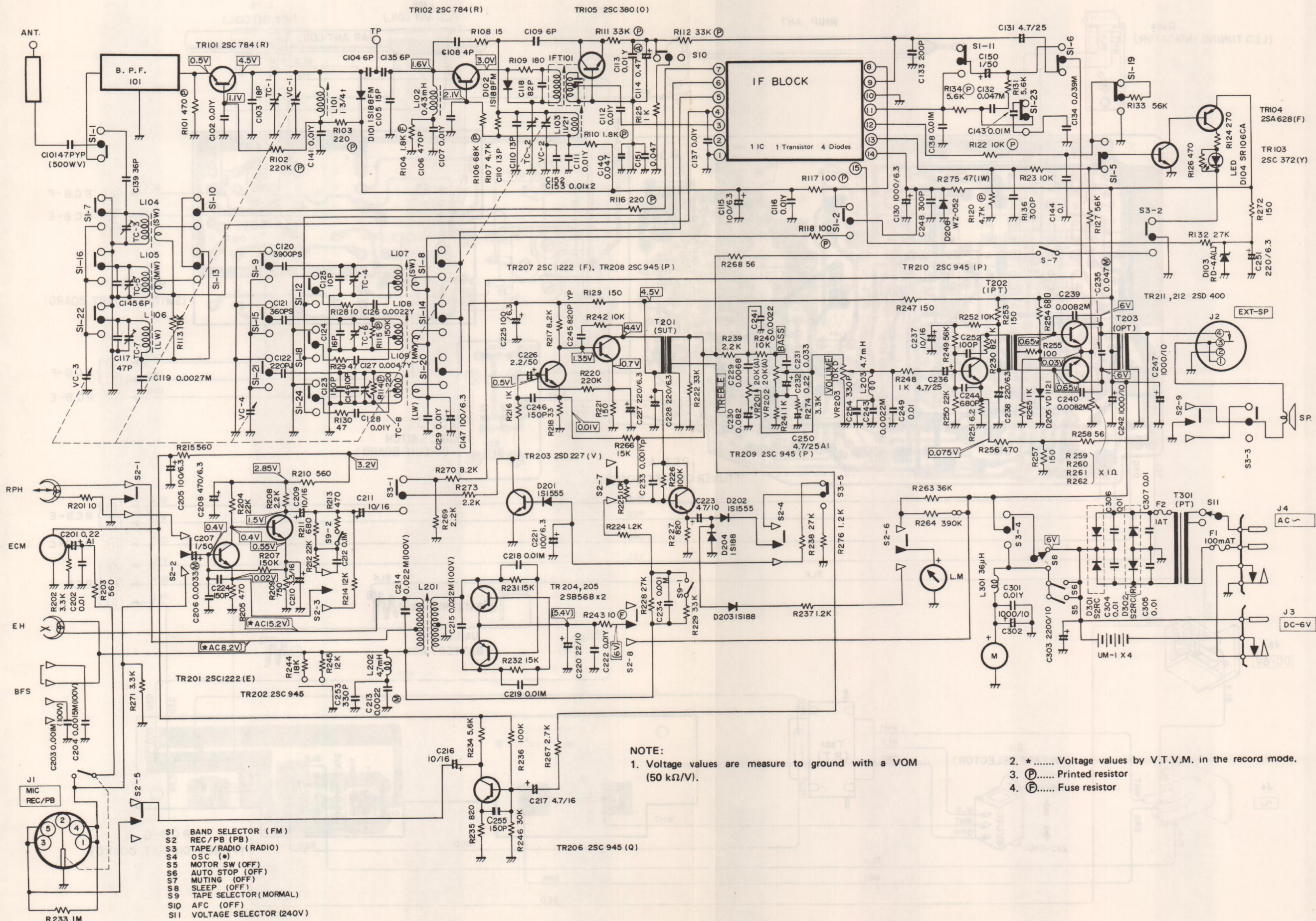








SCHEMATIC DIAGRAM

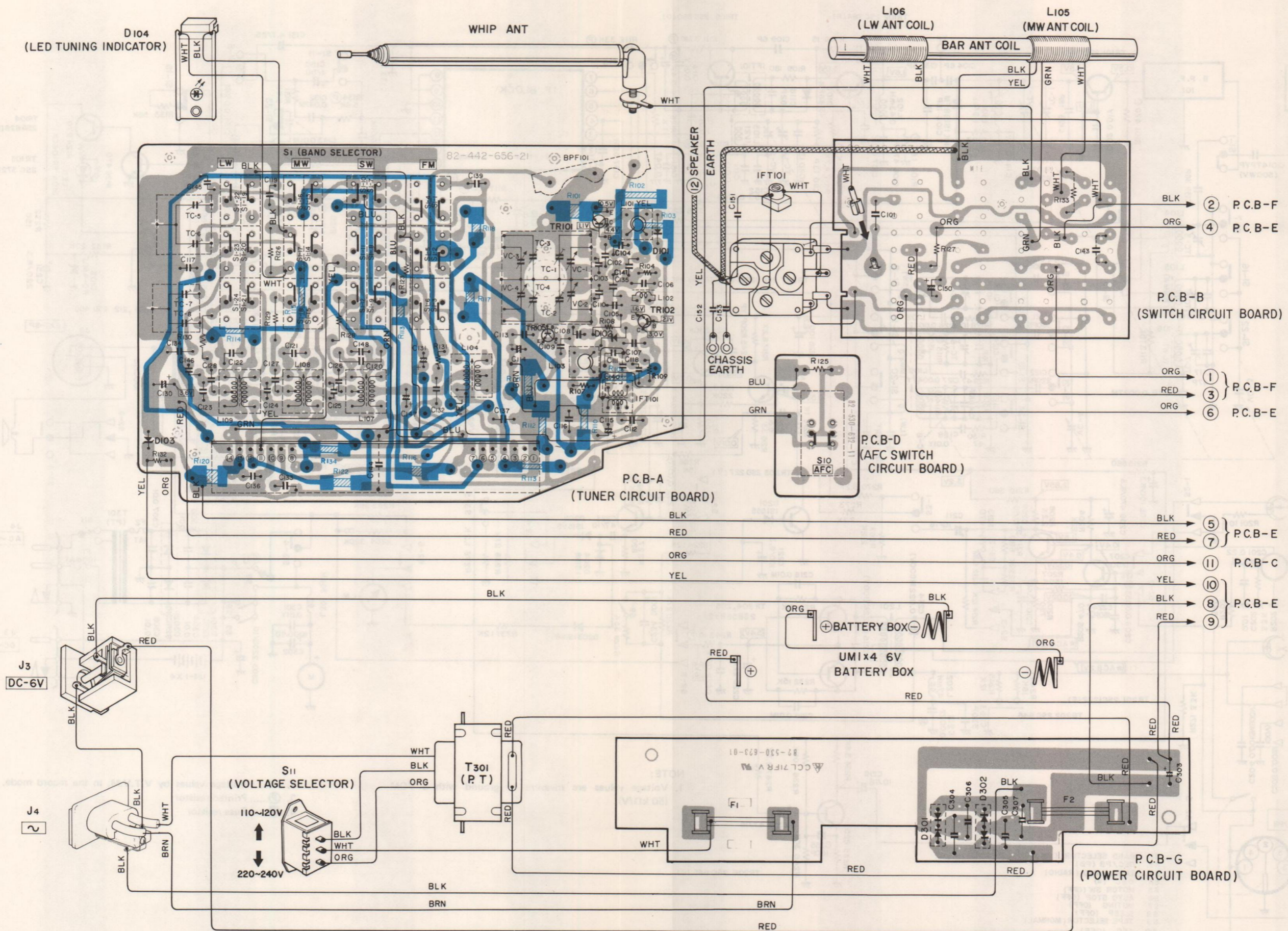


NOTE:  
 1. Voltage values are measure to ground with a VOM (50 kΩ/V).  
 2. \*..... Voltage values by V.T.V.M. in the record mode.  
 3. (P)..... Printed resistor  
 4. (F)..... Fuse resistor

- S1 BAND SELECTOR (FM)
- S2 REC/PB (PB)
- S3 TAPE/RADIO (RADIO)
- S4 OSC (●)
- S5 MOTOR SW (OFF)
- S6 AUTO STOP (OFF)
- S7 MUTING (OFF)
- S8 SLEEP (OFF)
- S9 TAPE SELECTOR (NORMAL)
- S10 AFC (OFF)
- S11 VOLTAGE SELECTOR (240V)



WIRING 1

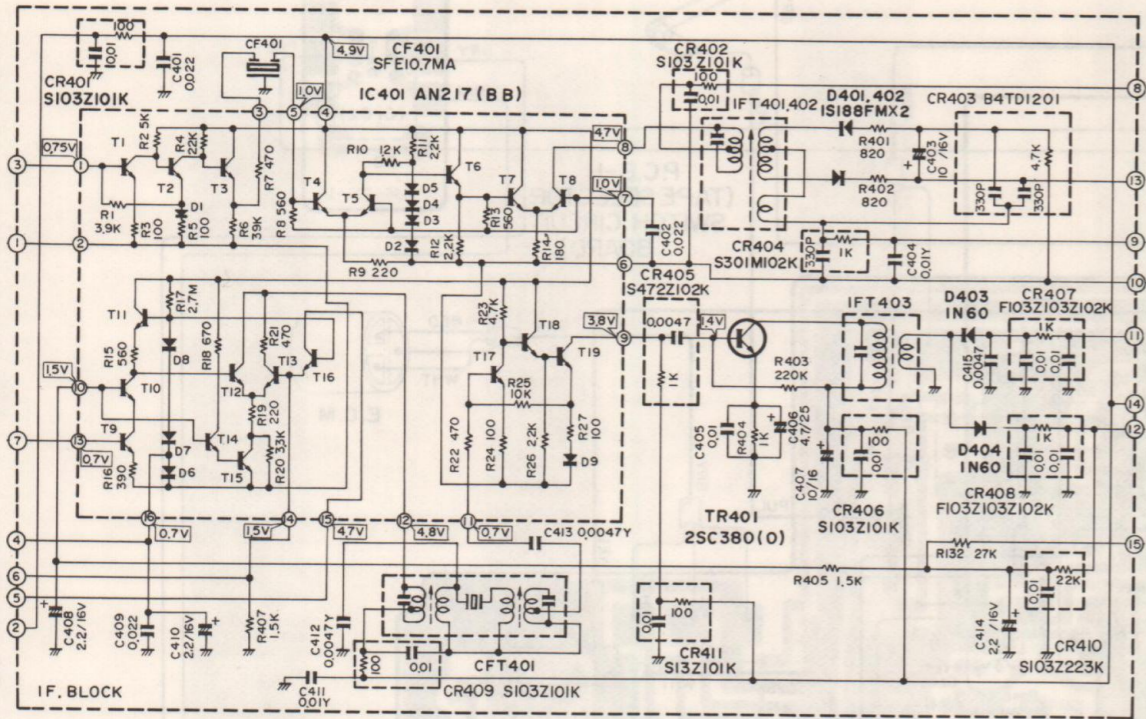






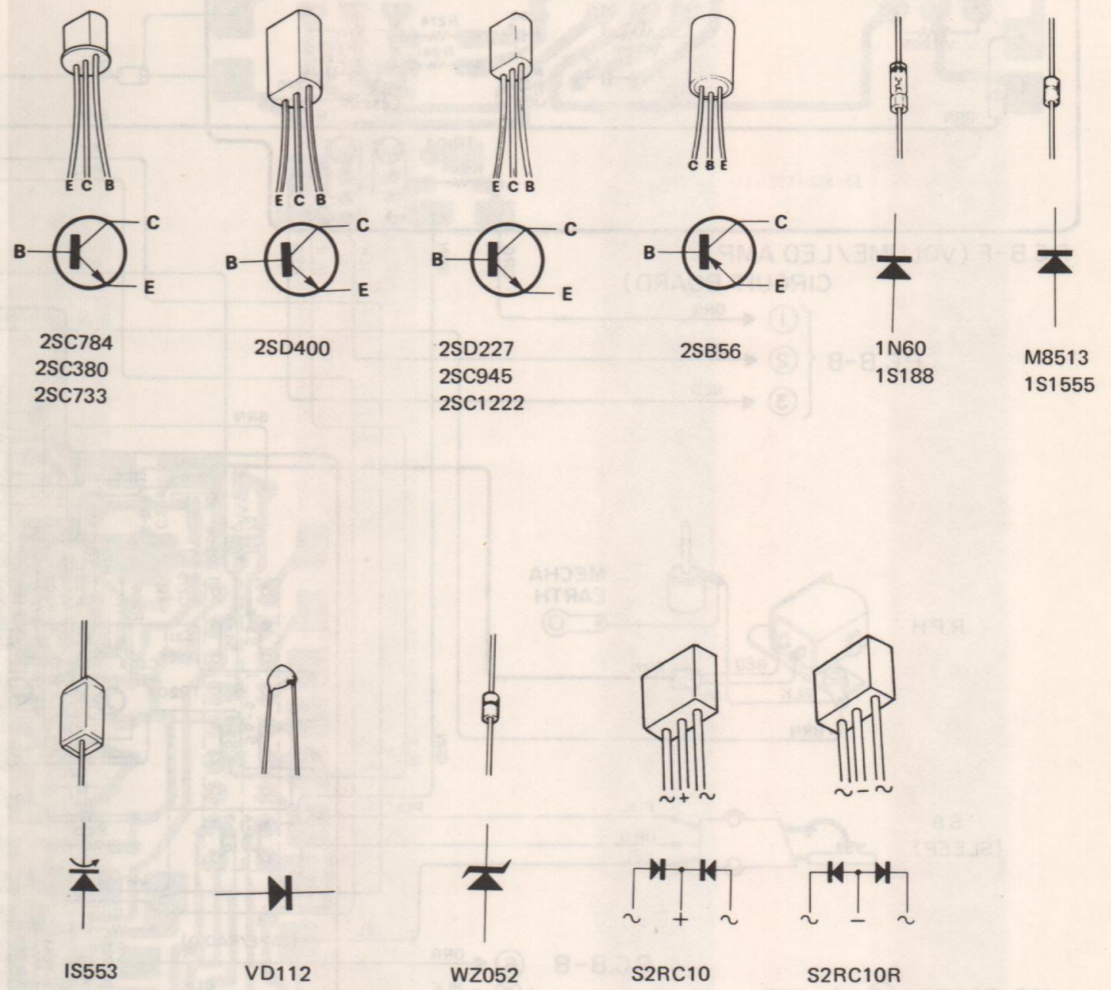
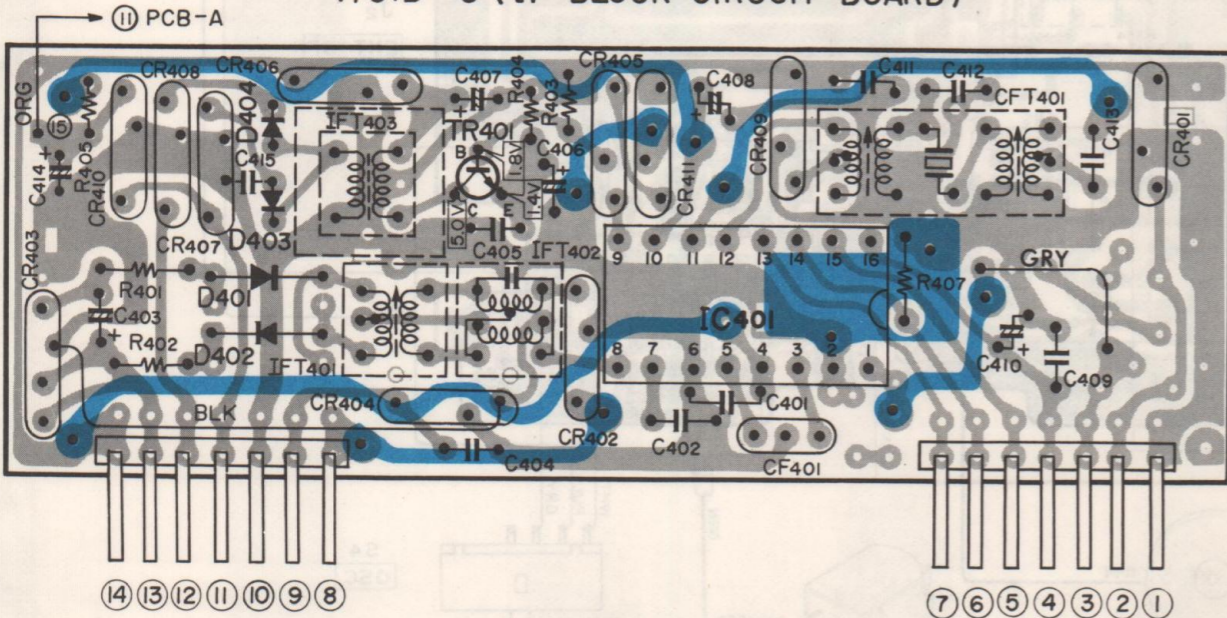


SCHMATIC DIAGRAM, IF BLOCK



IF BLOCK CIRCUIT BOARD

P.C.B-C (IF BLOCK CIRCUIT BOARD)



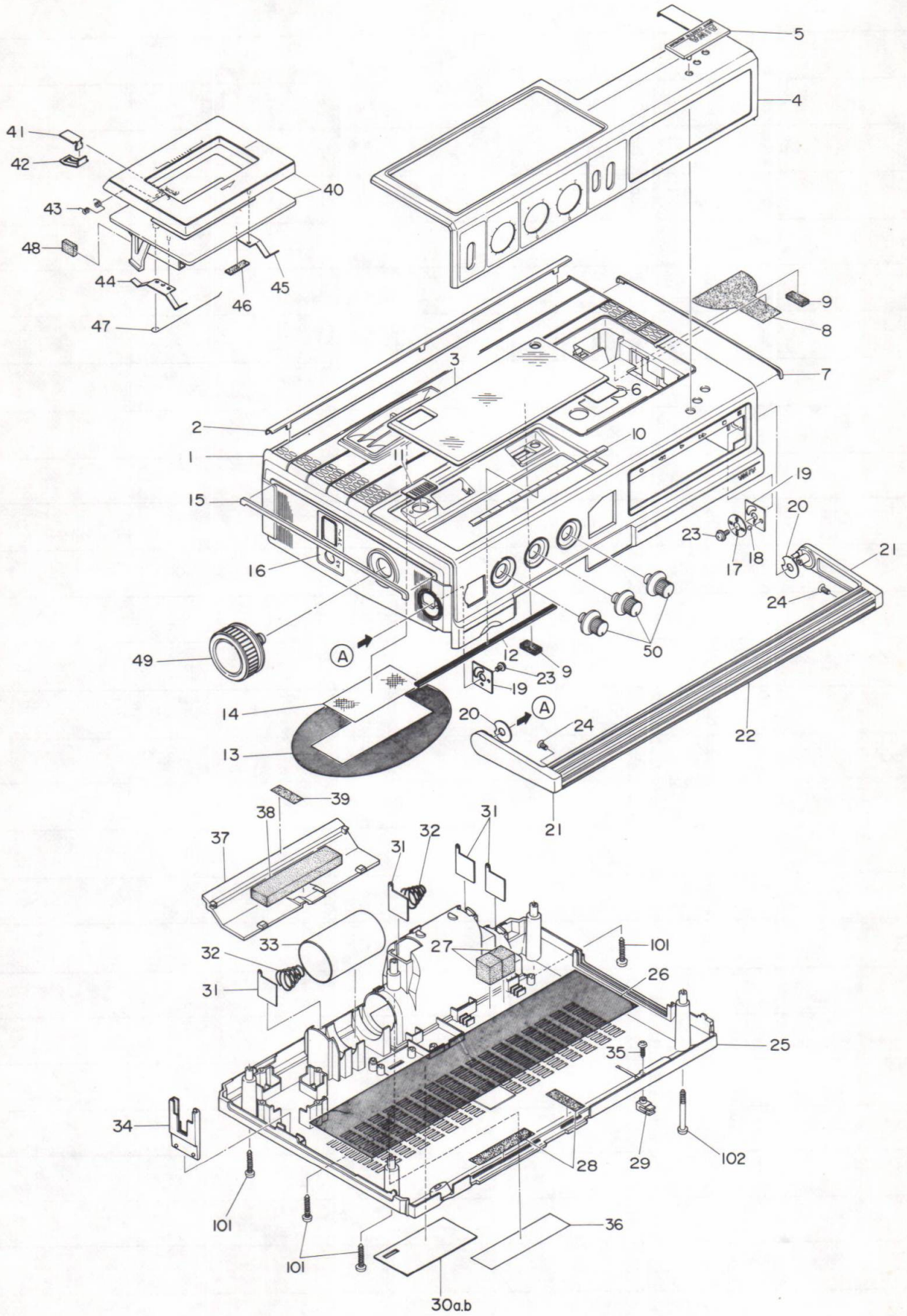


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EXPLODED VIEW-1





## PARTS LIST

## MECHANICAL PARTS

■ \* mark in this part list shows exclusive part (which is used) for only Model TPR-216.

| Ref. No. | Part No.      | Part No. Changed to | Description  | Common Model | Q'ty |
|----------|---------------|---------------------|--|--------------|------|
| 1~39     | 80-005-300-41 |                     | <b>Cabinet Assembly – "EE" model<br/>(Main case ass'y + Back cover ass'y<br/>+ Battery room lid ass'y)</b> |              |      |
| 1~39     | 80-005-300-01 |                     | <b>Cabinet Assembly – "UK" model<br/>(Main case ass'y + Back cover ass'y<br/>+ Battery room lid ass'y)</b> |              |      |
| 1~24     | 80-005-301-41 |                     | <b>Main case ass'y</b>   |              |      |
| 1-1      | 82-530-033-01 |                     | Case proper  | *            | 1    |
| 1-2      | 82-442-015-01 |                     | Decorative plate, Case proper  | TPR-215      | 1    |
| 1-3      | 82-442-006-01 |                     | Window, Tuning dial  | TPR-215      | 1    |
| 1-4      | 82-530-019-01 |                     | Panel, Top   | *            | 1    |
| 1-5      | 82-530-004-01 |                     | Name plate, AIWA   | *            | 1    |
| 1-6      | 82-386-033-01 |                     | Label, Tape indication   | TPR-216      | 1    |
| 1-7      | 82-530-006-01 |                     | Panel, Side L  | *            | 1    |
| 1-8      | 82-530-030-01 |                     | Himeron cloth  | *            | 2    |
| 1-9      | 82-530-225-01 |                     | S cushion  | *            | 2    |
| 1-10     | 82-530-031-01 |                     | Name plate, Dial window  | *            | 1    |
| 1-11     | 82-530-015-01 |                     | Grille, ECM  | *            | 1    |
| 1-12     | 82-442-212-01 |                     | Rubber sheet   | TPR-215      | 1    |
| 1-13     | 82-530-027-01 |                     | Dust screen cloth, Speaker   | *            | 1    |
| 1-14     | 82-530-024-01 |                     | Net, Speaker   | *            | 1    |
| 1-15     | 82-530-005-01 |                     | Panel, Side R  | *            | 1    |
| 1-16     | 82-530-050-01 |                     | Name plate, Jack   | *            | 1    |
| 1-17     | 82-429-257-01 |                     | Click washer   | TPR-107      | 1    |
| 1-18     | 87-073-006-01 |                     | Steel ball 3φ  |              | 1    |
| 1-19     | 82-429-225-01 |                     | Click plate  | TPR-107      | 2    |
| 1-20     | 82-428-365-01 |                     | Poly-slider washer 6φ  |              | 2    |
| 1-21     | 82-429-014-01 |                     | Metal fitting, Carrying handle   | TPR-107      | 2    |
| 1-22     | 82-442-036-01 |                     | Carrying handle  | TPR-215      | 1    |
| 1-23     | 87-490-094-01 |                     | VWS + 3-6  |              | 2    |
| 1-24     | 87-233-095-01 |                     | Q + 3-8  |              | 2    |
| 25~36    | 80-005-302-41 |                     | <b>Back cover ass'y (EE model only)</b>  |              |      |
| 25~36    | 80-005-302-01 |                     | <b>Back cover ass'y (UK model only)</b>  |              |      |
| 1-25     | 82-530-002-01 |                     | Back cover   | *            | 1    |
| 1-26     | 82-439-030-01 |                     | Himeron cloth, Back cover  | TPR-300      | 1    |
| 1-27     | 82-445-256-01 |                     | Cushion, Circuit board   | TPR-250      | 2    |
| 1-28     | 87-063-096-01 |                     | H cushion 13   |              | 2    |
| 1-29     | 82-440-038-01 |                     | Holder, Antenna  |              | 1    |
| 1-30a    | 82-530-037-01 |                     | Name plate, Spec. (EE model only)  | *            | 1    |
| 1-30b    | 82-530-040-01 |                     | Name plate, Spec. (UK model only)  | *            | 2    |
| 1-31     | 87-038-032-01 |                     | Terminal plate, Battery  |              | 4    |
| 1-32     | 81-480-050-01 |                     | Spring, Battery  |              | 2    |
| 1-33     | 82-432-214-01 |                     | Pipe, Battery  | TPR-212      | 1    |
| 1-34     | 82-432-215-01 |                     | Holder, Jack   | TPR-212      | 1    |
| 1-35     | 87-341-074-01 |                     | UT <sub>1</sub> + 2.6-8  |              | 1    |
| 1-36     | 87-056-010-01 |                     | Label, Mains instruction   |              | 1    |
| 37~39    | 80-005-303-41 |                     | <b>Battery room lid ass'y</b>  |              |      |
| 1-37     | 82-432-037-01 |                     | Battery room lid   | TPR-212      | 1    |
| 1-38     | 82-432-224-01 |                     | Cushion, Battery room lid  | TPR-212      | 1    |
| 1-39     | 82-422-236-01 |                     | Himeron cloth, Battery room lid  | TPR-203      | 1    |
| 40~48    | 80-005-307-41 |                     | <b>Cassette lid ass'y</b>  |              |      |
| 1-40     | 82-530-030-01 |                     | Cassette lid   | *            | 1    |
| 1-41     | 82-429-260-01 |                     | Slide plate, Cassette lid  | TPR-107      | 1    |
| 1-42     | 82-429-261-01 |                     | Plate spring A, Cassette lid   | TPR-107      | 1    |
| 1-43     | 82-422-241-01 |                     | Spring, Cassette lid   | TPR-203      | 1    |
| 1-44     | 82-432-239-01 |                     | Plate spring R, Cassette lid   | TPR-212      | 1    |
| 1-45     | 82-432-238-01 |                     | Plate spring L, Cassette lid   | TPR-212      | 1    |
| 1-46     | 82-422-236-01 |                     | Himeron cloth, Cassette lid  | TPR-203      | 1    |
| 1-47     | 82-445-257-01 |                     | Spring, T  | TPR-250      | 1    |
| 1-48     | 82-370-361-01 |                     | Cushion rubber   |              | ½    |
| 1-49     | 82-443-073-01 |                     | Tuning knob ass'y  | TPR-206      | 1    |
| 1-50     | 82-530-025-01 |                     | Volume knob  | *            | 3    |



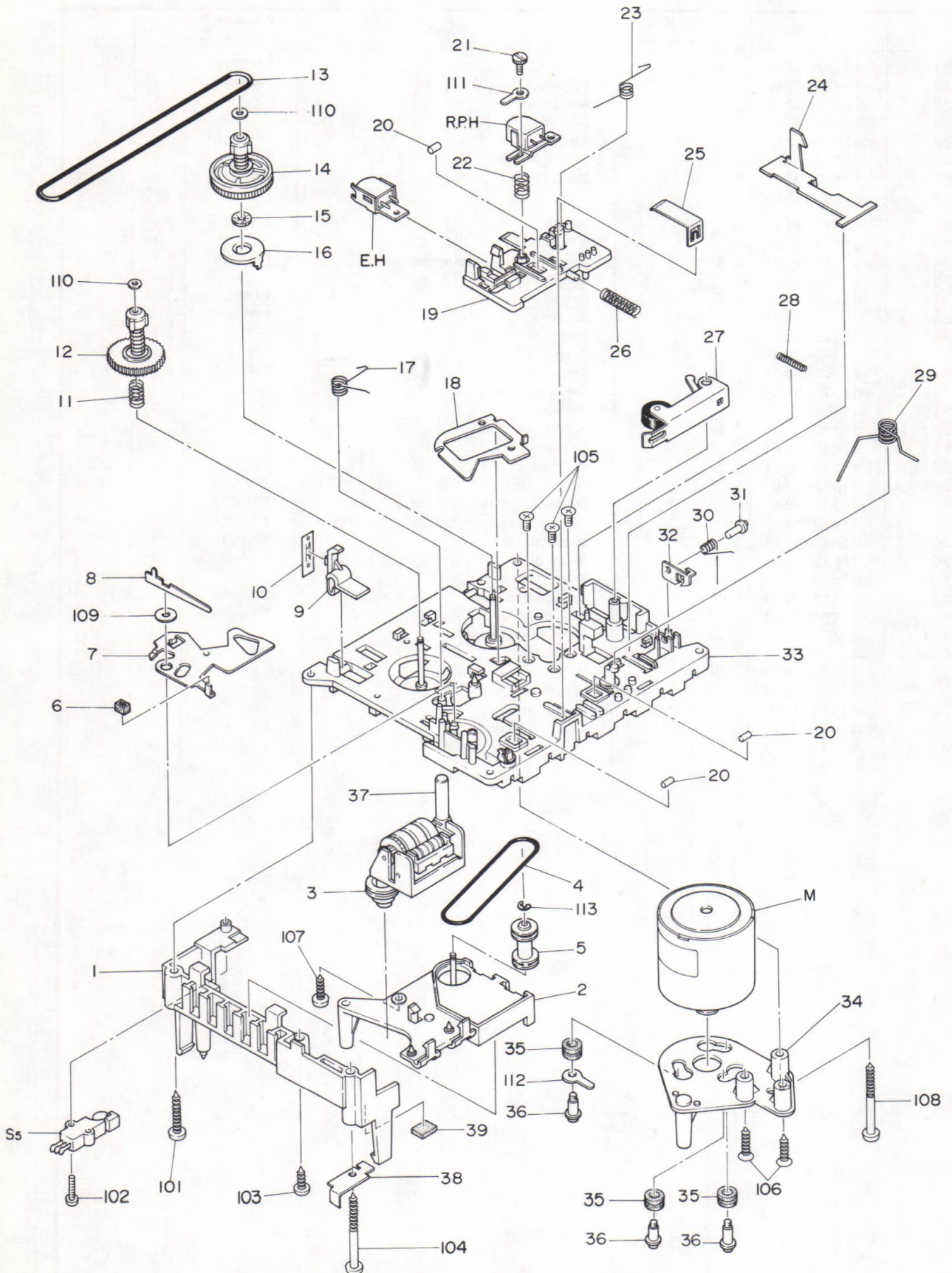




| Ref. No. | Part No.      | Part No.<br>Changed to | Description                 | Common<br>Model | Q'ty      |
|----------|---------------|------------------------|-----------------------------|-----------------|-----------|
| 2-1      | 82-442-064-01 |                        | Antenna, Whip               | TPR-215         | 1         |
| 2-2      | 82-429-227-01 |                        | Washer, Antenna             | TPR-107         | 1         |
| 2-3      | 87-038-039-01 |                        | Wire binder                 |                 | 2         |
| 2-4      | 81-493-224-01 |                        | Gear ass'y                  |                 | 1         |
| 2-5      | 82-442-210-01 |                        | Spring, Gear                | TPR-215         | 1         |
| 2-6      | 82-442-211-01 |                        | Drum , Dial                 | TPR-215         | 1         |
| 2-7      | 82-442-207-11 |                        | Shaft, Drum                 | TPR-215         | 1         |
| 2-8      | 87-096-045-01 |                        | String, Dial                |                 | 682<br>mm |
| 2-9      | 82-442-215-01 |                        | Spring, Drum                | TPR-215         | 1         |
| 2-10     | 82-412-341-01 |                        | G cushion B                 |                 | 1         |
| 2-11     | 82-442-220-01 |                        | Holder, Power transformer   | TPR-215         | 1         |
| 2-12     | 82-530-224-01 |                        | M cushion                   | *               | 1         |
| 2-13     | 82-442-010-01 |                        | Button A                    | TPR-215         | 1         |
| 2-14     | 82-442-011-01 |                        | Button B                    | TPR-215         | 1         |
| 2-15     | 82-442-012-01 |                        | Button C                    | TPR-215         | 1         |
| 2-16     | 82-442-013-01 |                        | Button D                    | TPR-215         | 1         |
| 2-17     | 82-442-050-01 |                        | Knob                        | TPR-215         | 3         |
| 2-18     | 82-530-051-01 |                        | Himeron cloth, Switch       | *               | 3         |
| 2-19     | 82-458-299-01 |                        | Cushion                     |                 | 1         |
| 2-20     | 82-428-276-01 |                        | Holder, Antenna             |                 | 2         |
| 2-21     | 82-530-207-01 |                        | R-T lever ass'y             | *               | 1         |
| 2-22     | 82-530-203-01 |                        | R-T switch lever            | *               | 1         |
| 2-23     | 82-442-022-01 |                        | Pointer, Dial               | TPR-215         | 1         |
| 2-24     | 82-442-049-01 |                        | Decorative plate L, Pointer | TPR-215         | 1         |
| 2-25     | 82-442-048-01 |                        | Decorative plate R, Pointer | TPR-215         | 1         |
| 2-26     | 82-442-236-01 |                        | Himeron cloth,              | TPR-215         | 1         |
| 2-27     | 82-530-216-01 |                        | Radio chassis ass'y         | *               | 1         |
| 2-28     | 82-530-219-01 |                        | Shaft, Tuning               | *               | 1         |
| 2-29     | 82-442-209-01 |                        | Spring, Wire guide          | TPR-215         | 1         |
| 2-30     | 87-064-063-01 |                        | Holder, ECM                 |                 | 1         |
| 2-31     | 82-401-228-01 |                        | Metal fitting, Speaker      |                 | 1         |
| 2-32     | 82-530-035-01 |                        | Board, Dial                 | *               | 1         |
| 2-33     | 82-530-043-01 |                        | Board, Jack                 | *               | 1         |
| 2-34     | 82-530-224-01 |                        | M cushion                   | *               | 1         |
| 2-35     | 82-435-212-01 |                        | Cover, Fuse                 | TPR-100         | 1         |
| 2-36     | 82-421-261-01 |                        | Cushion, Circuit board      |                 | 1         |
| 2-37     | 82-442-219-01 |                        | Cover, Voltage selector     | TPR-215         | 1         |



EXPLODED VIEW-3

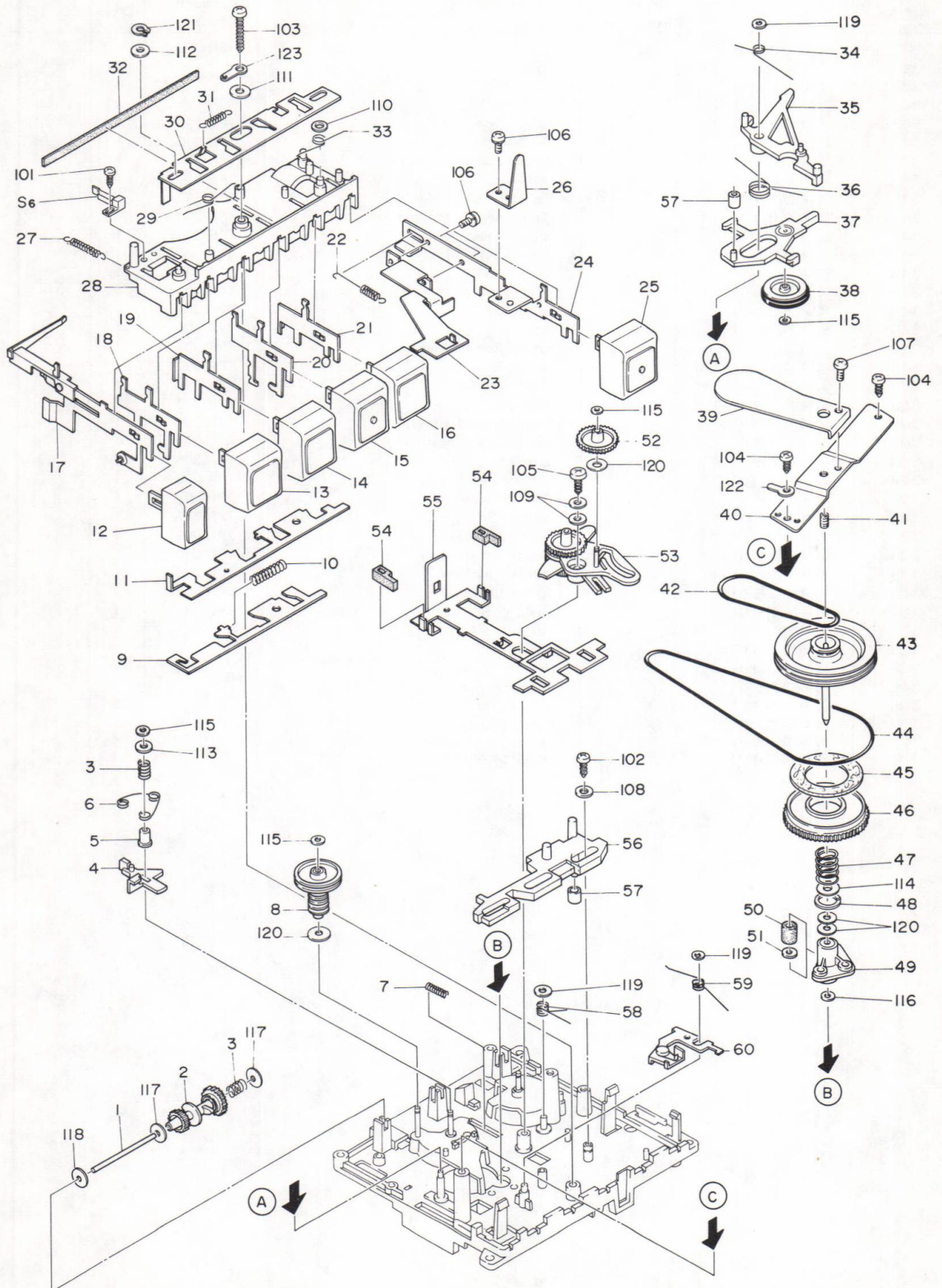




| Ref. No. | Part No.      | Part No.<br>Changed to | Description                         | Common<br>Model | Q'ty |
|----------|---------------|------------------------|-------------------------------------|-----------------|------|
| 3-1      | 82-443-230-01 |                        | Sub-chassis                         | TPR-206         | 1    |
| 3-2      | 82-530-202-01 |                        | Holder, Counter                     | *               | 1    |
| 3-3      | 87-040-063-01 |                        | Counter                             |                 | 1    |
| 3-4      | 82-530-210-01 |                        | Belt, Counter                       | *               | 1    |
| 3-5      | 82-422-230-01 |                        | Pulley, Relay                       | TPR-203         | 1    |
| 3-6      | 82-439-302-01 |                        | Pad, Switch                         | TPR-300         | 1    |
| 3-7      | 82-439-235-01 |                        | REC lock lever                      | TPR-300         | 1    |
| 3-8      | 82-439-604-01 |                        | Leaf switch                         | TPR-300         | 1    |
| 3-9      | 82-439-261-01 |                        | Record-blocking lever               | TPR-300         | 1    |
| 3-10     | 82-439-262-01 |                        | Plate spring, Record-blocking lever | TPR-300         | 1    |
| 3-11     | 82-439-380-01 |                        | Spring, Back tension                | TPR-300         | 1    |
| 3-12     | 82-439-216-01 |                        | Supply reel platform ass'y          | TPR-300         | 1    |
| 3-13     | 82-439-330-01 |                        | Belt, Relay                         | TPR-300         | 1    |
| 3-14     | 82-439-208-01 |                        | Take-up reel platform ass'y         | TPR-300         | 1    |
| 3-15     | 82-439-367-01 |                        | Felt, 75φ                           | TPR-300         | 1    |
| 3-16     | 82-439-358-01 |                        | Slip disk                           | TPR-300         | 1    |
| 3-17     | 82-439-289-01 |                        | Spring, Rec. lock lever             | TPR-300         | 1    |
| 3-18     | 82-476-232-01 |                        | Review lever B                      | TPR-300         | 1    |
| 3-19     | 82-439-205-01 |                        | Moving chassis                      | TPR-300         | 1    |
| 3-20     | 82-439-297-01 |                        | Roller, 3φ                          | TPR-300         | 3    |
| 3-21     | 82-439-373-21 |                        | Shaft, Head adjusting               | TPR-300         | 1    |
| 3-22     | 82-385-332-01 |                        | Spring, Head adjusting              | AD-6300         | 1    |
| 3-23     | 82-439-285-01 |                        | Spring, Pinch lever                 | TPR-300         | 1    |
| 3-24     | 82-443-209-01 |                        | Cassette lock lever                 | TPR-206         | 1    |
| 3-25     | 82-439-206-01 |                        | Plate spring, Moving chassis        | TPR-300         | 1    |
| 3-26     | 82-439-281-01 |                        | Spring, Moving chassis              | TPR-300         | 1    |
| 3-27     | 82-439-364-01 |                        | Pinch lever ass'y                   | TPR-300         | 1    |
| 3-28     | 82-439-278-01 |                        | Spring, Cassette lock               | TPR-300         | 1    |
| 3-29     | 82-439-277-01 |                        | Spring, Play lever                  | TPR-300         | 1    |
| 3-30     | 82-439-275-01 |                        | Spring, Lock plate                  | TPR-300         | 1    |
| 3-31     | 82-439-268-01 |                        | Shaft, Lock plate                   | TPR-300         | 1    |
| 3-32     | 82-530-223-01 |                        | Lock plate A                        | *               | 1    |
| 3-33     | 09-047-650-00 |                        | Chassis ass'y                       |                 | 1    |
| 3-34     | 82-443-232-01 |                        | Holder, Moter                       | TPR-206         | 1    |
| 3-35     | 87-087-029-01 |                        | Rubber cushion                      |                 | 3    |
| 3-36     | 87-081-483-01 |                        | M2.6 motor screw                    |                 | 3    |
| 3-37     | 82-442-021-01 |                        | Button, Counter                     | TPR-215         | 1    |
| 3-38     | 82-530-226-01 |                        | Holder, R-T switch                  | *               | 1    |
| 3-39     | 82-370-361-01 |                        | Rubber cushion                      |                 | 1    |



EXPLODED VIEW-4





| Ref. No. | Part No.      | Part No.<br>Changed to | Description                | Common<br>Model | Q'ty |
|----------|---------------|------------------------|----------------------------|-----------------|------|
| 4-1      | 82-439-300-01 |                        | Shaft, Worm wheel          | TPR-300         | 1    |
| 4-2      | 82-439-408-01 |                        | Worm wheel L ass'y         | TPR-206         | 1    |
| 4-3      | 82-439-369-01 |                        | Spring, Slip               | TPR-300         | 2    |
| 4-4      | 82-439-439-01 |                        | Slider N                   | TPR-300         | 1    |
| 4-5      | 82-439-368-01 |                        | Bushing                    | TPR-300         | 1    |
| 4-6      | 82-439-288-01 |                        | Spring, Slider             | TPR-300         | 1    |
| 4-7      | 82-439-371-01 |                        | Spring, Brake              | TPR-300         | 1    |
| 4-8      | 82-439-403-01 |                        | Worm gear ass'y            | TPR-206         | 1    |
| 4-9      | 82-439-375-01 |                        | Slide plate B              | TPR-300         | 1    |
| 4-10     | 82-439-284-01 |                        | Spring, Slide plate        | TPR-300         | 1    |
| 4-11     | 82-439-233-01 |                        | Slide plate A              | TPR-300         | 1    |
| 4-12     | 82-530-012-01 |                        | Button, PAUSE              | *               | 1    |
| 4-13     | 82-530-010-01 |                        | Button, STOP               | *               | 1    |
| 4-14     | 82-530-008-01 |                        | Button, FF                 | *               | 1    |
| 4-15     | 82-530-007-01 |                        | Button, FWD                | *               | 1    |
| 4-16     | 82-530-009-01 |                        | Button, REW                | *               | 1    |
| 4-17     | 82-439-263-01 |                        | Pause lever ass'y          | TPR-300         | 1    |
| 4-18     | 82-439-231-01 |                        | Stop lever                 | TPR-300         | 1    |
| 4-19     | 82-439-232-01 |                        | FF lever                   | TPR-300         | 1    |
| 4-20     | 82-439-345-01 |                        | Play lever                 | TPR-300         | 1    |
| 4-21     | 82-439-230-01 |                        | Rewind lever               | TPR-300         | 1    |
| 4-22     | 82-285-254-01 |                        | Spring, Play idler         | TP-760          | 1    |
| 4-23     | 82-294-214-01 |                        | REC lever, One-finger      |                 | 1    |
| 4-24     | 82-294-217-01 |                        | REC lever                  |                 | 1    |
| 4-25     | 82-530-011-01 |                        | Button, REC                | *               | 1    |
| 4-26     | 82-530-220-01 |                        | Plater spring, REC         | TPR-300         | 1    |
| 4-27     | 82-439-267-01 |                        | Spring, Pause lever        | TPR-300         | 1    |
| 4-28     | 82-439-432-01 |                        | Back plate                 | TPR-300         | 1    |
| 4-29     | 82-439-351-01 |                        | Spring, Push-button        | TPR-300         | 1    |
| 4-30     | 82-294-215-01 |                        | REC plate, One-finger      |                 | 1    |
| 4-31     | 82-283-289-01 |                        | Spring, Play idler         |                 | 1    |
| 4-32     | 82-439-331-01 |                        | Rubber cushion             | TPR-300         | 1    |
| 4-33     | 82-294-219-01 |                        | Spring, Push-button R      |                 | 1    |
| 4-34     | 82-439-287-01 |                        | Spring, Kick lever         | TPR-300         | 1    |
| 4-35     | 82-439-255-01 |                        | Kick lever                 | TPR-300         | 1    |
| 4-36     | 82-439-286-01 |                        | Spring, Play idler lever   | TPR-300         | 1    |
| 4-37     | 82-439-259-01 |                        | Play idler lever           | TPR-300         | 1    |
| 4-38     | 82-285-255-01 |                        | Play idler ass'y           | TP-760          | 1    |
| 4-39     | 82-476-620-01 |                        | Shield plate, Worm gear    | TPR-910         | 1    |
| 4-40     | 82-439-405-01 |                        | Lower shaft bearing plate  | TPR-206         |      |
| 4-41     | 82-346-349-01 |                        | Shaft, Thrust adjusting    |                 | 1    |
| 4-42     | 82-439-412-01 |                        | Rubber belt                | TPR-206         | 1    |
| 4-43     | 82-439-401-01 |                        | Flywheel ass'y             | TPR-206         | 1    |
| 4-44     | 82-443-214-01 |                        | Belt , Main                | TPR-300         | 1    |
| 4-45     | 82-439-389-01 |                        | Felt, 24φ                  | TPR-300         | 1    |
| 4-46     | 82-439-435-01 |                        | Slip gear                  | TPR-300         | 1    |
| 4-47     | 82-439-246-01 |                        | Spring, Flywheel           | TPR-300         | 1    |
| 4-48     | 82-439-354-01 |                        | Washer, 13.4φ              | TPR-300         | 1    |
| 4-49     | 82-439-433-01 |                        | Shaft bearing ass'y        | TPR-300         | 1    |
| 4-50     | 82-439-292-01 |                        | Drive rubber               | TPR-300         | 1    |
| 4-51     | 82-439-385-01 |                        | Oil stopper                | TPR-300         | 1    |
| 4-52     | 82-439-356-01 |                        | FR gear B                  | TPR-300         | 1    |
| 4-53     | 82-439-218-01 |                        | FR lever ass'y             | TPR-300         | 1    |
| 4-54     | 82-439-426-01 |                        | Brake show A               | TPR-300         | 2    |
| 4-55     | 82-530-222-01 |                        | Brake plate                | *               | 1    |
| 4-56     | 82-439-225-01 |                        | FR slide plate             | TPR-300         | 1    |
| 4-57     | 82-439-226-01 |                        | Collar, FR slide plate     | TPR-300         | 2    |
| 4-58     | 82-439-290-01 |                        | Spring, FR slide plate     | TPR-300         | 1    |
| 4-59     | 82-439-280-01 |                        | Spring, Auto-release lever | TPR-300         | 1    |
| 4-60     | 82-439-360-01 |                        | Auto-release lever ass'y   | TPR-300         | 1    |



| Ref. No. | Part No.      | Description            | Q'ty |
|----------|---------------|------------------------|------|
| 1-101    | 87-081-273-01 | VT <sub>1</sub> + 3-25 | 4    |

| Ref. No. | Part No.      | Description            | Q'ty |
|----------|---------------|------------------------|------|
| 1-102    | 87-352-105-01 | VT <sub>2</sub> + 3-35 | 1    |

| Ref. No. | Part No.      | Description             | Q'ty |
|----------|---------------|-------------------------|------|
| 2-101    | 87-263-033-01 | V + 2-4                 | 2    |
| 2-102    | 87-263-092-11 | V + 3-4                 | 2    |
| 2-103    | 87-227-033-01 | P + 2-4                 | 2    |
| 2-104    | 87-253-071-01 | U + 2.6-4               | 11   |
| 2-105    | 87-253-036-01 | U + 2-8                 | 1    |
| 2-106    | 87-351-097-01 | VT <sub>1</sub> + 3-12  | 3    |
| 2-107    | 87-341-073-01 | UT <sub>1</sub> + 2.6-8 | 2    |
| 2-108    | 87-341-095-01 | UT <sub>1</sub> + 3-8   | 8    |
| 2-109    | 87-081-481-01 | VTT + 3-5               | 2    |

| Ref. No. | Part No.      | Description | Q'ty |
|----------|---------------|-------------|------|
| 2-110    | 87-480-033-01 | VS + 2-4    | 2    |
| 2-111    | 87-480-072-01 | VS + 2.6-5  | 1    |
| 2-112    | 87-410-325-01 | W4-10-0.8   | 1    |
| 2-113    | 87-421-309-01 | SW-5        | 1    |
| 2-114    | 87-081-016-01 | FW3-8-0.8   | 1    |
| 2-115    | 87-441-008-01 | STE-2.5     | 1    |
| 2-116    | 87-491-028-01 | N-5         | 1    |
| 2-117    | 87-391-013-01 | N-2.6       | 3    |
| 2-118    | 87-450-418-01 | LB-8        | 1    |

| Ref. No. | Part No.      | Description             | Q'ty |
|----------|---------------|-------------------------|------|
| 3-101    | 87-081-273-01 | VT <sub>1</sub> + 3-25  | 1    |
| 3-102    | 87-341-037-01 | UT <sub>1</sub> + 2-10  | 1    |
| 3-103    | 87-341-096-01 | UT <sub>1</sub> + 3-10  | 1    |
| 3-104    | 87-352-105-01 | VT <sub>2</sub> + 3-35  | 1    |
| 3-105    | 87-327-074-01 | QT <sub>2</sub> + 2.6-8 | 3    |
| 3-106    | 87-321-102-01 | QT <sub>1</sub> + 3-20  | 2    |
| 3-107    | 87-341-099-11 | UT <sub>1</sub> + 3-15  | 1    |


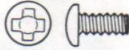

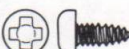
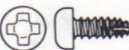





| Ref. No. | Part No.      | Description            | Q'ty |
|----------|---------------|------------------------|------|
| 3-108    | 87-081-495-01 | VT <sub>0</sub> + 3-30 | 1    |
| 3-109    | 87-081-017-01 | FW3-8-1                | 1    |
| 3-110    | 87-081-489-01 | PW1.7-3.5-0.25         | 2    |
| 3-111    | 87-450-411-01 | LB-1                   | 1    |
| 3-112    | 87-450-412-01 | LB-3                   | 1    |
| 3-113    | 87-441-003-01 | STE-1.5                | 1    |


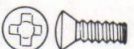






| Ref. No. | Part No.      | Description              | Q'ty |
|----------|---------------|--------------------------|------|
| 4-101    | 87-351-033-01 | VT <sub>1</sub> + 2-4    | 1    |
| 4-102    | 87-351-035-01 | VT <sub>1</sub> + 2-6    | 1    |
| 4-103    | 87-081-556-01 | VT <sub>1</sub> + 3-21   | 1    |
| 4-104    | 87-341-074-01 | UT <sub>1</sub> + 2.6-8  | 2    |
| 4-105    | 87-353-075-01 | VT <sub>2</sub> + 2.6-10 | 1    |
| 4-106    | 87-480-071-01 | VS + 2.6-4               | 3    |
| 4-107    | 87-081-501-01 | VTT + 2.6-4              | 1    |
| 4-108    | 87-410-305-01 | W2-6-0.4                 | 1    |
| 4-109    | 87-410-311-01 | W2.6-7.5-0.5             | 2    |
| 4-110    | 87-410-312-01 | W3-6-0.3                 | 1    |
| 4-111    | 87-081-165-01 | W3-10-0.5                | 1    |
| 4-112    | 87-410-314-01 | W3-8-0.3                 | 1    |

| Ref. No. | Part No.      | Description    | Q'ty |
|----------|---------------|----------------|------|
| 4-113    | 87-081-030-01 | FW2-6-0.5      | 1    |
| 4-114    | 87-081-494-01 | FW14.1-18-1    | 1    |
| 4-115    | 87-081-489-01 | PW1.7-3.5-0.25 | 4    |
| 4-116    | 87-081-498-01 | PW2.1-5-0.13   | 1    |
| 4-117    | 87-081-492-01 | PW2.1-8-0.13   | 2    |
| 4-118    | 87-416-358-01 | PW2.5-6-0.5    | 1    |
| 4-119    | 87-081-484-01 | PW3-6-0.25     | 3    |
| 4-120    | 87-081-319-01 | TW2.3-8-0.2    | 4    |
| 4-121    | 87-442-003-01 | STP-3          | 1    |
| 4-122    | 87-450-412-01 | LB-2           | 1    |
| 4-123    | 87-450-414-01 | LB-4           | 1    |

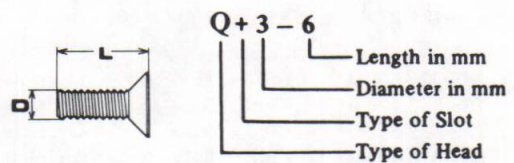
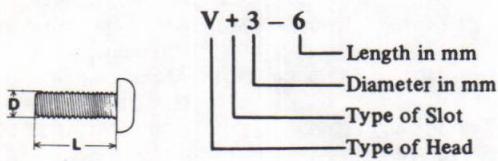


**HARDWARE NOMENCLATURE**

|             |                                     |  |
|-------------|-------------------------------------|--|
| <b>V:</b>   | Pan head screw                      |   |
| <b>U:</b>   | Binding head screw                  |   |
| <b>Q:</b>   | Flat countersunk head screw         |   |
| <b>VT1:</b> | Pan head tapping screw              |   |
| <b>VT2:</b> | Pan head tapping screw              |   |
| <b>UT1:</b> | Binding head tapping screw          |   |
| <b>QT1:</b> | Flat countersunk head tapping screw |   |
| <b>QT2:</b> | Flat countersunk head tapping screw |   |
| <b>VS:</b>  | Pan head screw with spring washer   |   |
| <b>VTT:</b> | Pan head tap-tight screw            |  |

|             |  |  |
|-------------|--|--|
| <b>VWS:</b> | Pan head tapping screw with spring washer and washer |   |
| <b>P:</b>   | Oval countersunk head screw                          |   |
| <b>W:</b>   | Washer   |   |
| <b>FW:</b>  | Fiber washer   |  |
| <b>PW:</b>  | Poly-slider washer                                   |  |
| <b>TW:</b>  | Tefron washer  |  |
| <b>SW:</b>  | Spring washer  |   |
| <b>STP:</b> | Powerful stop ring                                   |   |
| <b>STE:</b> | E ring   |   |
| <b>LB:</b>  | Lug terminal plate                                   |   |
| <b>N:</b>   | Nut  |  |

**Example:**









| Symbol No.                                  | Part No.      | Description                |
|---|---------------|----------------------------|
| <b>« AFC SWITCH CIRCUIT BOARD SECTION »</b> |               |                            |
| PCB-D                                       | 82-530-632-11 | AFC switch circuit board   |
| S10   | 87-031-351-01 | Lever switch (AFC)         |
|   |               | <Resistor>                 |
| R125  | 88-134-102-01 | 1kΩ 1/4W ±10%              |
| <b>« REC/PB CIRCUIT BOARD SECTION »</b>     |               |                            |
| PCB-E                                       | 82-530-620-11 | REC/PB circuit board       |
| TR201                                       | 89-312-222-01 | Transistor, 2SC1222 (E)    |
| TR202,208,<br>209,210                       | 89-309-456-01 | Transistor, 2SC945 (P)     |
| TR203                                       | 89-402-275-01 | Transistor, 2SD227 (V)     |
| TR204,205                                   | 89-200-562-01 | Transistor, 2SB56 (B)      |
| TR206                                       | 89-309-452-01 | Transistor, 2SC945 (Q)     |
| TR207                                       | 89-312-221-01 | Transistor, 2SC1222 (F)    |
| TR211,212                                   | 89-404-006-01 | Transistor, 2SD400 (F)     |
| D201,202                                    | 87-027-097-01 | Diode, IS1555              |
| D203,204                                    | 88-052-188-11 | Diode, IS188 (FM)          |
| D205  | 87-026-104-01 | Diode, VD1121              |
| D206  | 87-026-069-01 | Diode, WZ052               |
| L201  | 87-007-080-01 | OSC coil                   |
| L202,203                                    | 87-005-093-01 | Choke coil, 4.7mH          |
| L301  | 87-003-039-01 | Choke coil, 36μH           |
| T201  | 87-002-101-01 | Step-up transformer        |
| T202  | 87-002-083-01 | Input transformer          |
| T203  | 82-428-603-01 | Output transformer         |
| J1  | 87-032-834-01 | DIN jack, 5P (MIC, REC/PB) |
| J2  | 87-032-681-01 | DIN jack, 2p (EXT-SP)      |
| S2  | 87-031-304-01 | Slide switch (REC/PB)      |
| S3  | 87-031-384-01 | Slide switch (TAPE/RADIO)  |
|   |               | <Resistors>                |
| R276  | 88-181-122-01 | 1.2kΩ 1/4W ±5% ELR         |
| R242  | 88-181-103-01 | 10kΩ 1/4W ±5% ELR          |
| R214  | 88-181-123-01 | 12kΩ 1/4W ±5% ELR          |
| R244  | 88-181-183-01 | 18kΩ 1/4W ±5% ELR          |
| R246  | 88-181-303-01 | 30kΩ 1/4W ±5% ELR          |
| R230  | 88-181-823-01 | 82kΩ 1/4W ±5% ELR          |
| R259,260,<br>261,262                        | 88-130-109-01 | 1Ω 1/4W ±5%                |
| R251  | 88-130-629-01 | 6.2Ω 1/4W ±5%              |
| R201  | 88-130-100-01 | 10Ω 1/4W ±5%               |
| R218  | 88-130-330-01 | 33Ω 1/4W ±5%               |
| R258,268                                    | 88-130-560-01 | 56Ω 1/4W ±5%               |
| R255  | 88-130-101-01 | 100Ω 1/4W ±5%              |
| R221,247,<br>253,257,<br>272                | 88-130-151-01 | 150Ω 1/4W ±5%              |
| R205,213,<br>256                            | 88-130-471-01 | 470Ω 1/4W ±5%              |
| R203,210,<br>215,219                        | 88-130-561-01 | 560Ω 1/4W ±5%              |
| R211,254                                    | 88-130-681-01 | 680Ω 1/4W ±5%              |
| R209  | 88-130-751-01 | 750Ω 1/4W ±5%              |
| R227,235                                    | 88-130-821-01 | 820Ω 1/4W ±5%              |
| R216,248,<br>265                            | 88-130-102-01 | 1kΩ 1/4W ±5%               |
| R224,237                                    | 88-130-122-01 | 1.2kΩ 1/4W ±5%             |
| R208,239,<br>269,273                        | 88-130-222-01 | 2.2kΩ 1/4W ±5%             |
| R267  | 88-130-272-01 | 2.7kΩ 1/4W ±5%             |
| R202,271                                    | 88-130-332-01 | 3.3kΩ 1/4W ±5%             |
| R234  | 88-130-562-01 | 5.6kΩ 1/4W ±5%             |
| R217,270                                    | 88-130-822-01 | 8.2kΩ 1/4W ±5%             |

| Symbol No.                              | Part No.      | Description                   |
|---|---------------|-------------------------------|
| R225,252                                | 88-130-103-01 | 10kΩ 1/4W ±5%                 |
| R245                                    | 88-130-123-01 | 12kΩ 1/4W ±5%                 |
| R231,232,<br>266                        | 88-130-153-01 | 15kΩ 1/4W ±5%                 |
| R204,212,<br>250                        | 88-130-223-01 | 22kΩ 1/4W ±5%                 |
| R228,238                                | 88-130-273-01 | 27kΩ 1/4W ±5%                 |
| R222,229                                | 88-130-333-01 | 33kΩ 1/4W ±5%                 |
| R263,                                   | 88-130-363-01 | 36kΩ 1/4W ±5%                 |
| R249                                    | 88-130-563-01 | 56kΩ 1/4W ±5%                 |
| R226,236                                | 88-130-104-01 | 100kΩ 1/4W ±5%                |
| R207                                    | 88-130-154-01 | 150kΩ 1/4W ±5%                |
| R220                                    | 88-130-224-01 | 220kΩ 1/4W ±5%                |
| R264                                    | 88-130-394-01 | 390kΩ 1/4W ±5%                |
| R233                                    | 88-130-105-01 | 1MΩ 1/4W ±5%                  |
| R275                                    | 88-150-470-01 | 47Ω 1W ±5%                    |
| R243                                    | 87-029-010-01 | 10Ω Fuse resistor             |
|   |               | <Capacitors>                  |
| C207                                    | 88-337-100-01 | 1μF 50V Electrolytic          |
| C226                                    | 88-337-200-01 | 2.2μF 50V Electrolytic        |
| C236,250                                | 88-336-500-01 | 4.7μF 25V Electrolytic        |
| C217                                    | 88-335-500-01 | 4.7μF 16V Electrolytic        |
| C210                                    | 88-335-300-01 | 3.3μF 16V Electrolytic        |
| C209,211,<br>216,237                    | 88-335-110-01 | 10μF 16V Electrolytic         |
| C242,247,<br>302                        | 88-335-130-01 | 1000μF 10V Electrolytic       |
| C223                                    | 88-333-510-01 | 47μF 10V Electrolytic         |
| C220                                    | 88-333-210-01 | 22μF 6.3V Electrolytic        |
| C205,221,<br>225                        | 88-332-120-01 | 100μF 6.3V Electrolytic       |
| C228,238,<br>251                        | 88-332-220-01 | 220μF 6.3V Electrolytic       |
| C208                                    | 88-332-520-01 | 470μF 6.3V Electrolytic       |
| C201                                    | 87-015-093-01 | 0.22μF 6.3V Aluminum solid    |
| C234                                    | 88-707-610-01 | 0.001μF Mylar                 |
| C241,243                                | 88-727-660-01 | 0.0022μF Mylar                |
| C206                                    | 88-727-700-01 | 0.0033μF Mylar                |
| C235                                    | 88-727-850-01 | 0.047μF Mylar                 |
| C239,240                                | 88-727-750-01 | 0.0082μF Mylar                |
| C143,218,<br>219,249                    | 88-727-810-01 | 0.01μF Mylar                  |
| C212                                    | 88-727-910-01 | 0.1μF Mylar                   |
| C203                                    | 88-708-610-01 | 0.001μF 100V Mylar            |
| C204                                    | 88-708-630-01 | 0.0015μF 100V Mylar           |
| C213                                    | 88-708-660-01 | 0.0022μF 100V Mylar           |
| C214,215                                | 88-708-820-01 | 0.022μF 100V Mylar            |
| C252                                    | 88-212-410-01 | 100pF Ceramic                 |
| C224,246,<br>255                        | 88-212-450-01 | 150pF Ceramic                 |
| C248                                    | 88-212-510-01 | 300pF Ceramic                 |
| C202,222,<br>301                        | 88-214-810-01 | 0.01μF Ceramic                |
| C244                                    | 88-218-570-01 | 680pF Ceramic                 |
| C245                                    | 88-218-580-01 | 820pF Ceramic                 |
| C233                                    | 88-218-610-01 | 0.001μF Ceramic               |
| C253                                    | 88-218-520-01 | 330pF Ceramic                 |
| C254                                    | 88-238-520-01 | 330pF Ceramic                 |
| <b>« VOLUME CIRCUIT BOARD SECTION »</b> |               |                               |
| PCB-F                                   | 82-530-622-11 | Volume circuit board          |
| TR103                                   | 89-303-724-01 | Transistor, 2SC372 (Y)        |
| TR104                                   | 89-106-285-01 | Transistor, 2SA628 (F)        |
| VR201,202                               | 82-431-605-01 | Volume, 20kΩ-A (BASS, TREBLE) |
| VR203                                   | 87-021-452-01 | Volume, 10kΩ-D (VOLUME)       |



| Symbol No.                             | Part No.      | Description                |
|--|---------------|----------------------------|
|  |               | <Resistors>                |
| R124                                   | 88-130-271-01 | 270Ω 1/4W ±5%              |
| R241                                   | 88-130-102-01 | 1kΩ 1/4W ±5%               |
| R274                                   | 88-130-332-01 | 3.3kΩ 1/4W ±5%             |
| R240                                   | 88-130-103-01 | 10kΩ 1/4W ±5%              |
|  |               | <Capacitors>               |
| C232                                   | 87-015-093-01 | 0.22μF 6.3V Aluminum solid |
| C229                                   | 88-717-740-01 | 0.0068μF Mylar             |
| C230                                   | 88-727-970-01 | 0.082μF Mylar              |
| C231                                   | 88-727-840-01 | 0.033μF Mylar              |
| <b>« POWER CIRCUIT BOARD SECTION »</b> |               |                            |
| PCB-G                                  | 82-530-623-01 | Power circuit board        |
| D301                                   | 87-027-167-01 | Diode, S2RC10 (BLK)        |
| D302                                   | 87-027-168-01 | Diode, S2RC10R (BRN)       |
| F1                                     | 87-035-067-01 | Fuse, 100mA "T"            |
|  | 87-057-766-11 | Fuse label, 100mA "T"      |
| F2                                     | 87-035-064-01 | Fuse, 1A "T"               |
|  | 87-057-770-01 | Fuse label, 1A "T"         |
|  | 87-032-323-01 | Fuse clamp                 |
|  |               | <Capacitors>               |
| C303                                   | 88-333-230-01 | 2200μF 10V Electrolytic    |
| C304,305,<br>306,307                   | 88-205-810-01 | 0.01μF Ceramic             |

| Symbol No.  | Part No.      | Description                                   |
|---|---------------|---|
| <b>« TAPE SELECTOR SWITCH<br/>CIRCUIT BOARD SECTION »</b> |               |   |
| PCB-H   | 82-530-633-01 | TAPE SELECTOR SWITCH<br>circuit board         |
| S9  | 87-031-351-01 | Lever switch (TAPE SELECTOR)                  |
| <b>« MISCELLANEOUS »</b>                                  |               |   |
| T301  | 82-442-663-01 | Power transformer                             |
| D104  | 82-442-601-01 | Light emitting diode, SR106CA<br>(TUNING IND) |
| RPH   | 87-046-143-01 | REC/PB head                                   |
| EH  | 87-046-122-01 | Erase head                                    |
| ECM   | 85-868-012-01 | ECM, CMU9 (R)                                 |
| M   | 80-661-882-01 | Motor, AM130B                                 |
| SP  | 82-530-608-01 | Speaker                                       |
| LM  | 82-530-601-01 | Level meter                                   |
| J3  | 82-266-214-11 | DC jack                                       |
| J4  | 87-032-434-01 | AC jack                                       |
| S4  | 82-409-630-01 | Slide switch (OSC)                            |
| S5  | 87-031-363-01 | Micro switch (MOTOR)                          |
| S6  | 87-031-393-01 | Leaf switch (AUTO STOP)                       |
| S8  | 87-031-362-01 | Micro switch (SLEEP)                          |
| S11   | 87-031-280-01 | Slide switch (VOLTAGE SELECTOR)               |

## ACCESSORIES/PACKAGE

| Ref. No. | Part No.      | Part No.<br>Changed to | Description                             | Common<br>Model | Q'ty |
|----------|---------------|------------------------|---|-----------------|------|
| 1a       | 82-530-854-01 |                        | Printed indiv., Packing (EE model only) | *               | 1    |
| 1b       | 82-530-853-01 |                        | Printed indiv., Packing (UK model only) | *               | 1    |
| 2        | 82-442-853-01 |                        | Cushion R, Printed indiv.               | TPR-215         | 1    |
| 3        | 82-442-852-01 |                        | Cushion L, Printed indiv.               | TPR-215         | 1    |
| 4        | 87-050-143-01 |                        | Poly-vinyl sack (for case)              |                 | 1    |
| 5        | 87-047-039-01 |                        | Battery, SUM-1AG                        |                 | 4    |
| 6        | 80-291-657-01 |                        | Tape cassette, DMC-146                  |                 | 1    |
| 7        | 87-051-171-01 |                        | Poly-vinyl sack (for instruction)       |                 | 1    |
| 8a       | 82-530-906-01 |                        | Instructions booklet (EE model only)    | *               | 1    |
| 8b       | 82-530-907-01 |                        | Instructions booklet (UK model only)    | *               | 1    |
| 9        | 87-056-009-01 |                        | Distributors list                       |                 | 1    |
| 10       | 80-032-478-01 |                        | DIN erase plug                          |                 | 1    |
| 11       | 87-051-137-01 |                        | Poly-vinyl sack (for AC cord)           |                 | 1    |
| 12a      | 87-034-070-01 |                        | AC cord (EE model only)                 |                 | 1    |
| 12b      | 87-034-841-01 |                        | AC cord (UK model only)                 |                 | 1    |
| 13       | 82-442-859-01 |                        | Cushion, Carrying case (EE model only)  |                 | 1    |
| 14       | 82-530-951-01 |                        | Carrying case (EE model only)           | *               | 1    |
| 15       | 87-056-008-01 |                        | Label, AC cord (UK model only)          |                 | 1    |
| 16       | 82-442-860-01 |                        | Cushion, Auxiliary (EE model only)      |                 | 2    |







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