

TC-K561S/KA1ES

SERVICE MANUAL

US Model
TC-KA1ES
AEP Model
UK Model
Australian Model
E Model
TC-K561S



Photo : TC-K561S

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| | |
|------------------------------------|---------------|
| Model Name Using Similar Mechanism | TC-K411/K511S |
| Tape Transport Mechanism Type | TCM-190VB14 |

SPECIFICATIONS

Recording system 4-track 2-channel stereo
Fast winding time Approx. 90 sec. (with Sony C-60 cassette)
Bias AC bias
Heads Erasing head \times 1 (S&F head)
Recording head \times 1 (SD head)
Playback head \times 1 (SD head)
Motors Capstan motor \times 1 (DC servo motor)
Reel motor \times 1 (DC motor)

Signal-to-noise ratio (at peak level and weighted)

| Cassette (Dolby NR off) | Type IV | Type II | Type I |
|-------------------------|---------|---------|--------|
| | 61 dB | 59 dB | 57 dB |

S/N ratio improvement (approximate values).

With Dolby B NR on: 5 dB at 1 kHz; 10 dB at 5 kHz
With Dolby C NR on: 15 dB at 500 Hz; 20 dB at 1 kHz
With Dolby S NR on: 10 dB at 100 Hz; 24 dB at 1 kHz

Harmonic distortion 0.4% (with Type I, 160 nWb/m
315 Hz, 3rd H.D.)
1.5% (with Type IV, 250 nWb/m
315 Hz, 3rd H.D.)

Frequency response (Dolby NR off)

| | |
|------------------|-------------------------------------------------------------------------------------|
| Type IV cassette | 30 - 19,000 Hz (\pm 3 dB, IEC) 30 - 16,000 Hz [\pm 3 dB (-4 dB recording)] |
| Type II cassette | 30 - 18,000 Hz (\pm 3 dB, IEC) |
| Type I cassette | 30 - 17,000 Hz (\pm 3 dB, IEC) |

Type IV : Sony Type IV (METAL)
Type II : Sony Type II (HIGH)
Type I : Sony Type I (NORMAL)

Wow and flutter \pm 0.085% W.Peak (IEC)
0.055% W.RMS (NAB)
 \pm 0.16% W.Peak (DIN)

Inputs

| | | |
|---------------------------|-----------------|-----------|
| Line inputs (phono jacks) | Sensitivity | 0.16 V |
| | Input impedance | 47 k ohms |

Outputs

| | | |
|--------------------------------|--------------------|----------------------------------------|
| Line outputs (phono jacks) | Rated output level | 0.5 V at a load impedance of 47 k ohms |
| | Load impedance | Over 10 k ohms |
| Headphones (stereo phone jack) | Output level | 1 mW at a load impedance of 32 ohms |

General

Power requirements

US model :
120 V AC, 60 Hz
AEP, German model :
220 - 230 V AC, 50/60 Hz
UK, Australian model :
240 V AC, 50/60 Hz
E model :
120, 220 or 240 V AC
adjustable, 50/60 Hz

Power consumption

23 W
Approx. 430 \times 123 \times 310 mm (w/h/d)
including projecting parts and controls

Dimensions

Mass

Approx. 4.2 kg

Supplied accessories

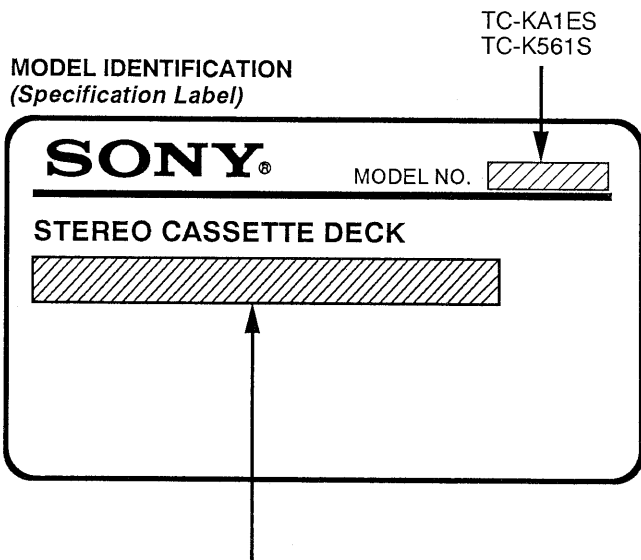
Audio connecting cords (2)

Design and specifications are subject to change without notice.

STEREO CASSETTE DECK
SONY[®]

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US model : AC 120V~60Hz
 AEP, German model : AC 220-230V~50/60Hz
 UK, Australian model : AC 240V~50/60Hz
 E model : AC 120, 220 or 240V
 adjustable~50/60Hz

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.

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

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

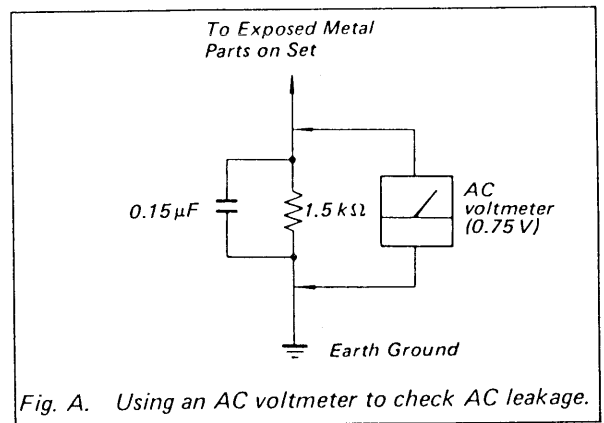
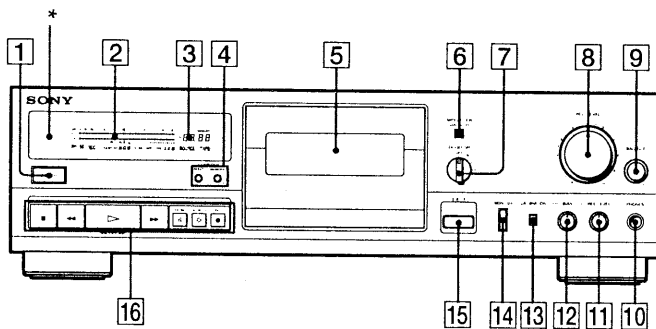


Fig. A. Using an AC voltmeter to check AC leakage.



SECTION 1 GENERAL

This section is extracted from instruction manual.

Identifying the Parts on the Front Panel



- 1 POWER switch
- 2 Peak level meters
- 3 Linear counter
- 4 COUNTER buttons
 - RESET button
 - MEMORY button
- 5 Cassette holder
- 6 MPX FILTER button
- 7 DOLBY NR (noise reduction) switch
- 8 REC (recording) LEVEL control
- 9 BALANCE control
- 10 PHONES jack (stereo phone jack)
- 11 REC (recording) LEVEL control for calibration
- 12 BIAS control
- 13 CALIBRATION button
- 14 MONITOR button
- 15 ≡ (EJECT) button
- 16 Tape operation buttons
 - (stop) button
 - ◀◀ (rewind) (Multi-AMS**) button
 - ▷ (play) button
 - ▶▶ (fast-forward) (Multi-AMS**) button
 - || PAUSE button
 - REC MUTE (record muting) button (42)
 - REC (recording) button

- *Remote control sensor
You can remotely control this cassette deck with:
- A remote commander that came with a Sony amplifier or receiver if it has the  mark and cassette deck control capability.
 - An optional Sony remote commander with the  mark and cassette deck control capability.

** AMS is an abbreviation for Automatic Music Sensor.

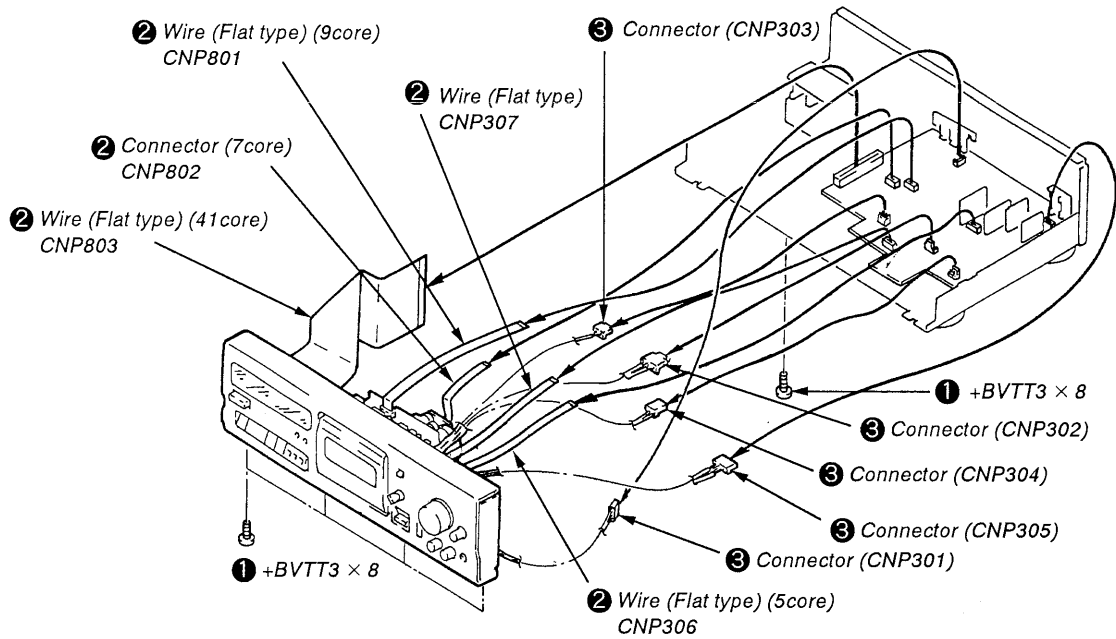
SECTION 2 DISASSEMBLY

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

CASE

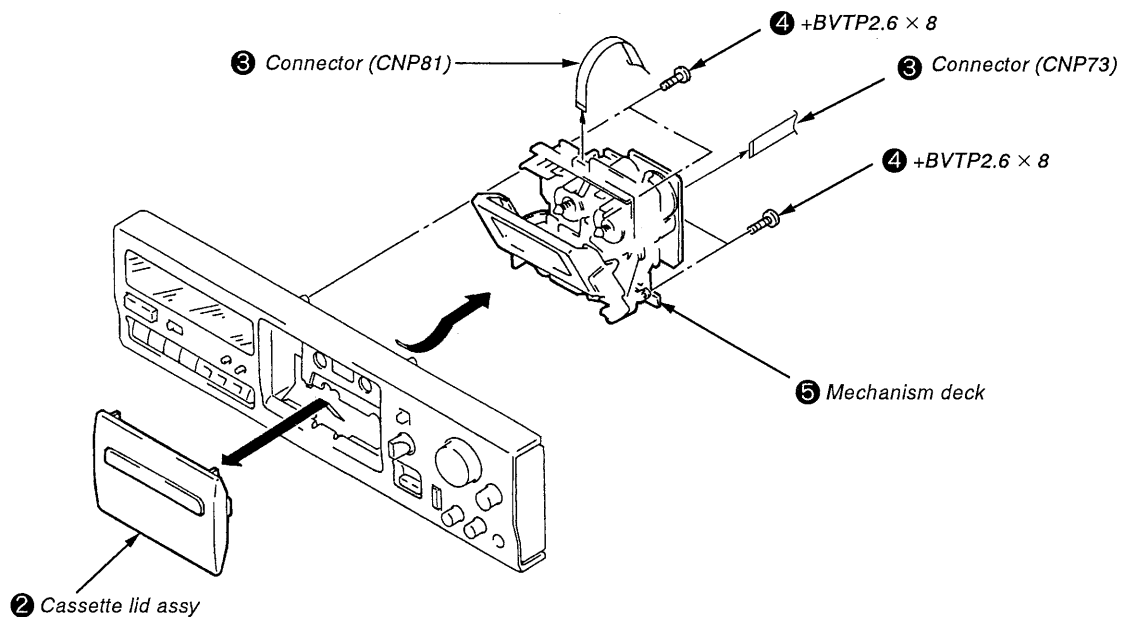
Unscrew the four case attachment screws M3 × 8 and remove the case.

2-1. FRONT PANEL

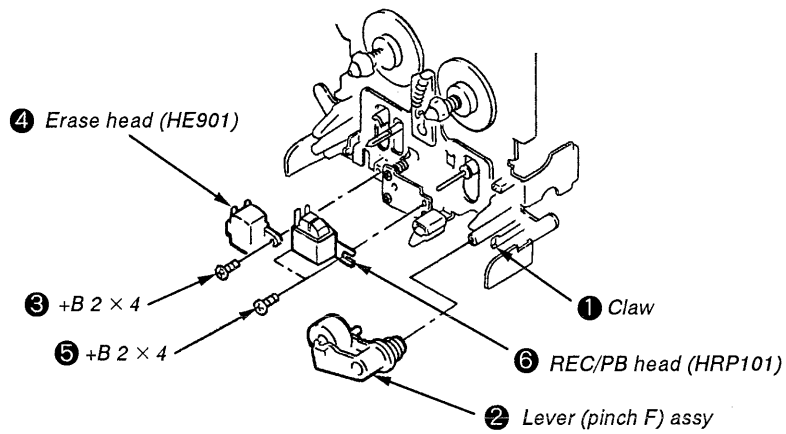


2-2. MECHANISM DECK

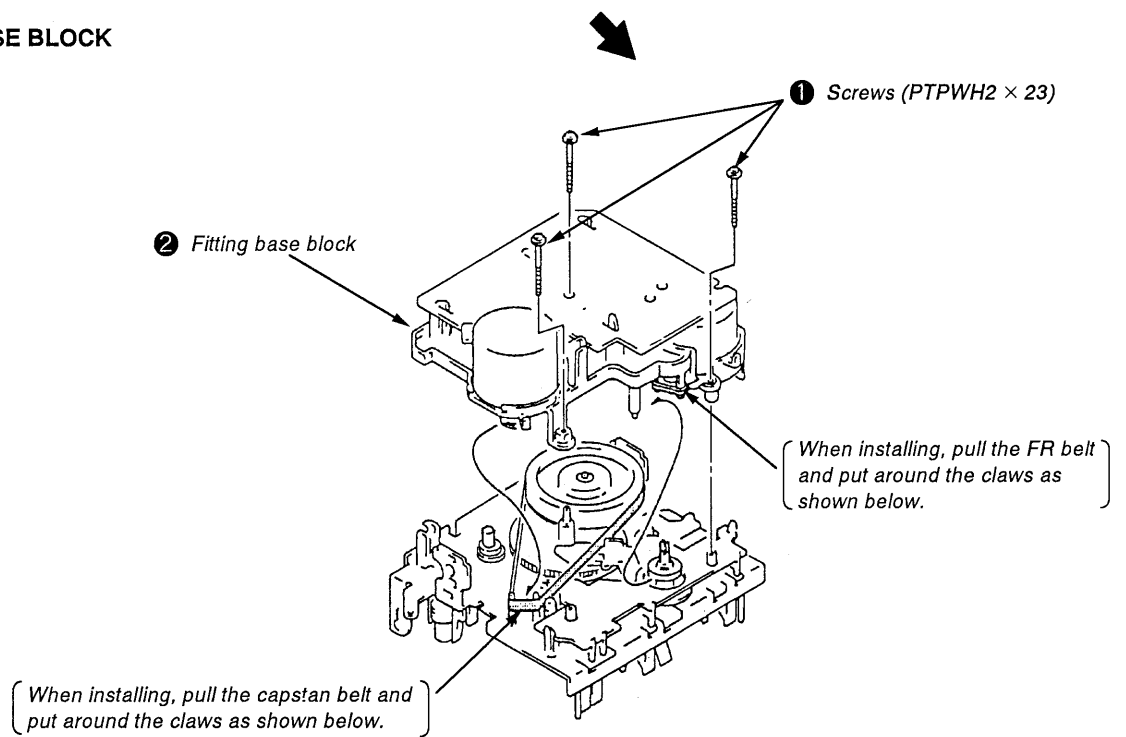
1 Press the eject button.



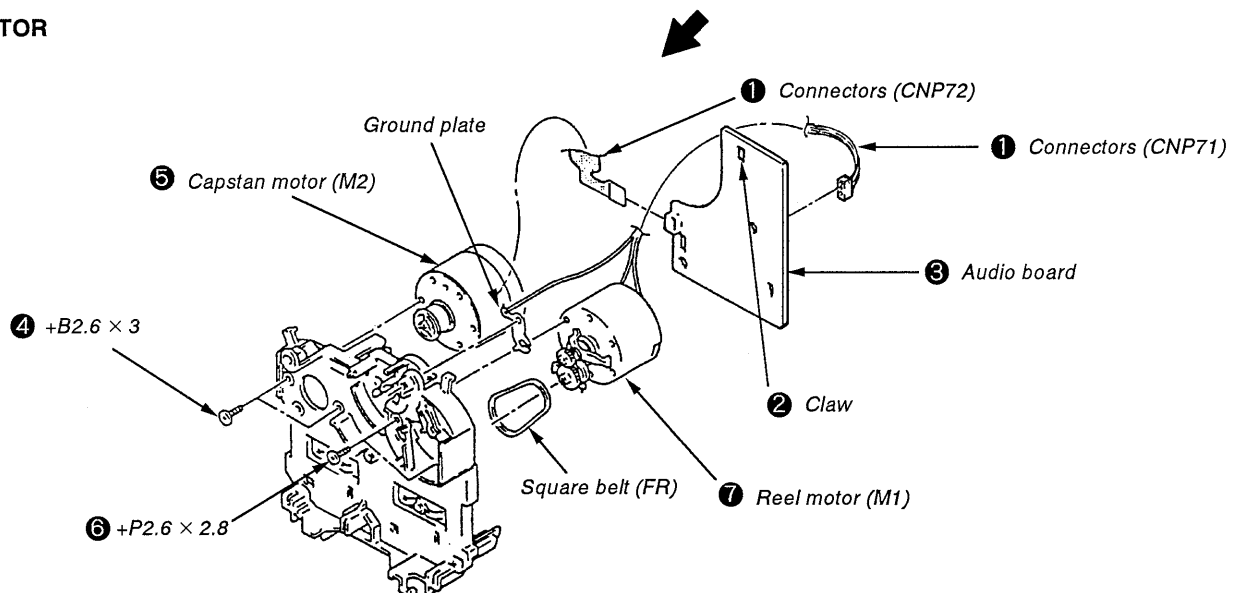
2-3. HEAD



2-4. FITTING BASE BLOCK



2-5. MOTOR



SECTION 3 ADJUSTMENTS

3-1. 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

| Mode | Torque meter | Meter reading |
|----------------------------|--------------|-----------------------------------------|
| Forward | CQ-102C | 30 to 65g•cm (0.42 to 0.90oz•inch) |
| Forward back tension | CQ-102C | 1 to 6g•cm (0.014 to 0.08 oz•inch) |
| FF/REW | CQ-201B | 70 to 120g•cm (0.98 to 1.66 oz•inch) |

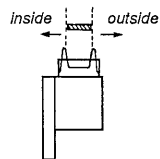
Record/Playback Head Height/Declination Adjustment

Procedures :

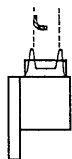
1. Test cassette : CQ-009C
2. Insert the mirror cassette and put the unit in record/Playback mode.

1) Height Adjustment :

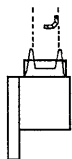
Check to see if the tape is curling at the tape guide of the head. If it is curling, tighten screws **A**, **B** and **C**, respectively by the same angle, moving the head so that it remains at the same angle throughout the procedure. If it curls on the bottom side of the mirror cassette (actually the inner side), tighten all the screws equally ; but loosen them if the tape begins to curl on the top side (outer side).



Normal
(Record/playback head
as seen from the side
of the erasehead.)



Curling on the inner
side
Tighten screws **A**, **B**
and **C**.



Curling on the outer
side
Loosen screws **A**, **B**
and **C**.

2) Declination Adjustment :

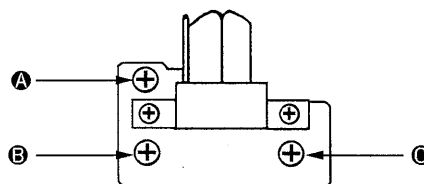
While in the record/playback position, set the back tension to 0 (wind the supply reel with something thin like a pencil in a counterclockwise direction) and make sure there is no curling or shifting (shifting up/shifting down) at the guide of the record/playback head.

Because shifting can only occur due to a difference in the width of the tape and that of the tape guides (curling will otherwise occur), it is necessary to pay close attention since it can be easily overlooked.

When there is a shift, tighten screws **B** and **C** equally and change the declination of the head. If the tape is shifting up, tighten the screws, and if it is shifting down, loosen them.

Repeat the adjustments in steps 1) to 2) and fine adjust the height and the declination.

Adjustment Location : — record/playback head —

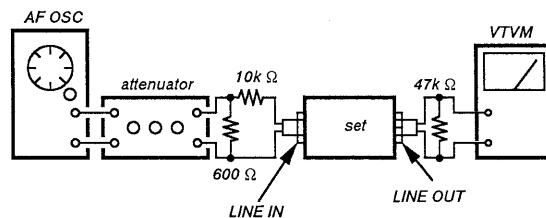


3-2. ELECTRICAL ADJUSTMENTS

PRECAUTION

1. The adjustment should be performed in the publication. (Be sure to make playback adjustment at first.)
2. The adjustments and measurement should be performed for both L-CH and R-CH.
 - Switch position
DOLBY NR switch : OFF
 - 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 | 10k Ω |
| input signal level | 0.5V (- 3.8dB) |

Standard Output Level

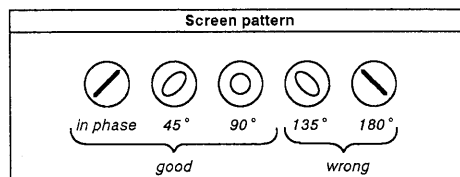
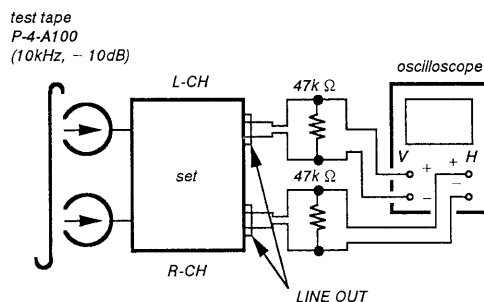
| Output terminal | LINE OUT |
|---------------------|-----------------|
| load impedance | 47k Ω |
| output signal level | 0.5V (- 3.8dB) |

Test Tape

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

0dB=0.775V

3. Phase check Playback Mode



Test Mode

1. Insert a short-circuit plug into TP801 (2P) and turn ON the power switch. (Earth pin ⑨ of IC801 and turn ON the power switch.)

At first, all the fluorescent tubes light up, then the system returns to normal display. (However, "0000" is not displayed on the counter.)

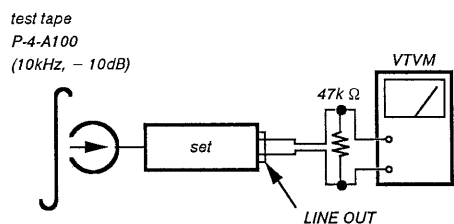
2. To release the test mode, remove the short plug and turn off the power switch.

3. Remove the short plug after completion of adjustment.

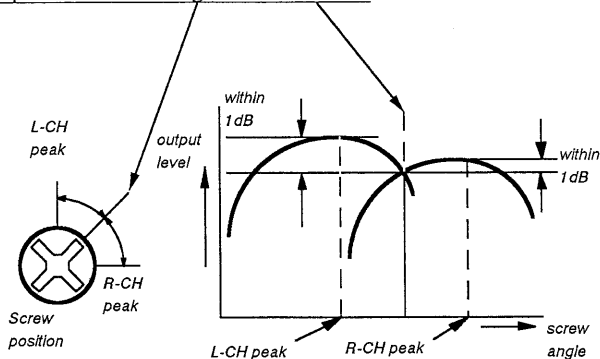
Record/Playback Head Azimuth Adjustment

Procedure :

1. Forward playback Mode

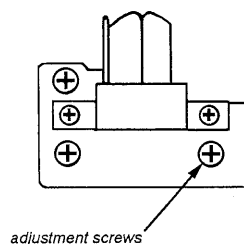


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



4. After the adjustment, lock the adjustment screws with suitable locking compound.

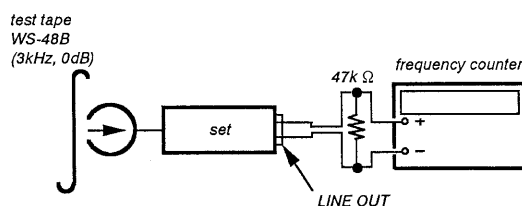
Adjustment Location : - record/playback head -



Tape Speed Adjustment

Procedure :

- Forward Playback Mode -



1. Set to FWD playback mode.

2. Adjust RV71 so that the frequency counter reading becomes $3,000 \pm 15\text{Hz}$.

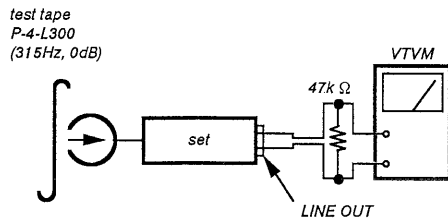
Frequency difference between the beginning and the end of the tape should be within 3%.

Adjustment Location : AUDIO board (Page 10)

Playback Level Adjustment

Procedure :

– Forward Playback Mode –



Adjust RV121 (L-CH) and RV221 (R-CH) so the VTVM reading becomes the adjustment limits below.

Adjustment Value :

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

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

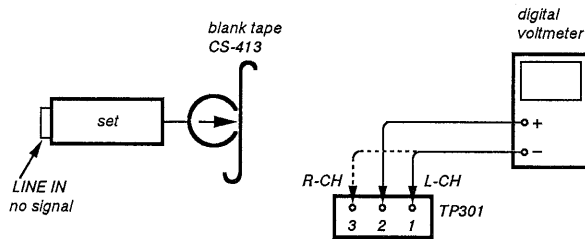
Adjustment Location : MAIN board (Page 10)

Bias Consumption Current Adjustment

This adjustment should be performed when replacing the head assy or the bias oscillating transformer (T101, T201).

Procedure :

() : R-CH



1. Connect the digital voltmeter to test point TP301.
2. Set RV103 (RV203) to mechanical center.
3. Set to FWD record mode.
4. Adjust T101 (T201) so that the digital voltmeter reading becomes minimum.

Adjustment Location : MAIN board (Page 10)

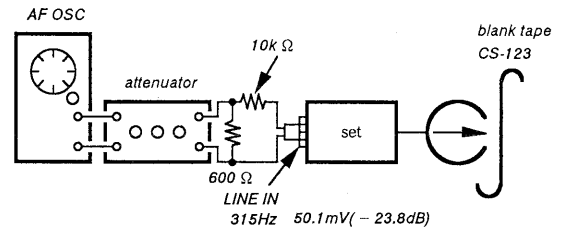
Record Level Adjustment

Setting :

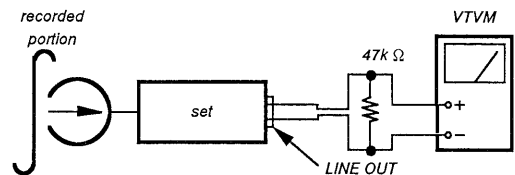
REC LEVEL control : standard record position (Refer to page 7.)

Procedure :

1. Record Mode



2. Playback Mode



Confirm playback the tape recorded become adjustment level as follows.

If necessary, adjust RV101 (L-CH), RV201 (R-CH) and repeat the steps 1 and 2.

Adjustment Value :

LINE OUT level : $-23.8 \pm 0.5\text{dB}$ (47.2 to 53mV)

Adjustment Location : MAIN board (Page 10)

– Adjustment Parts Location Diagrams –

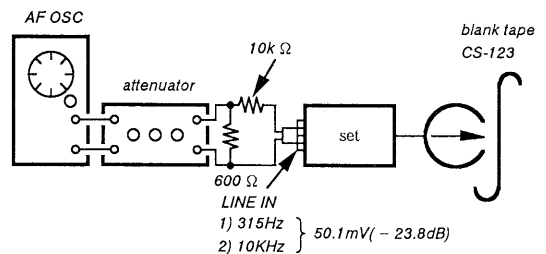
Record Bias Adjustment

Setting :

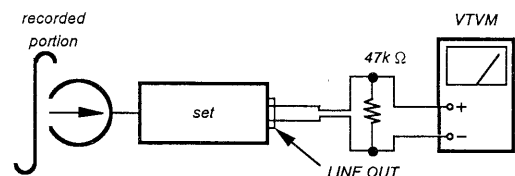
REC LEVEL control : standard record position (Refer to page 7.)

Procedure :

1. Record Mode



2. Playback Mode



Confirm that the 10kHz playback output is $0 \pm 0.3\text{dB}$ relative to the 315Hz output. If necessary, adjust RV103 (L-CH), RV203 (R-CH) and repeat the steps given above.

Adjustment Location : MAIN board

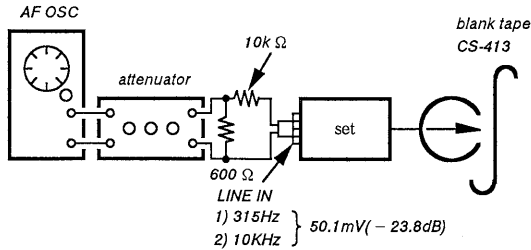
Record EQ (IV) Adjustment

Setting :

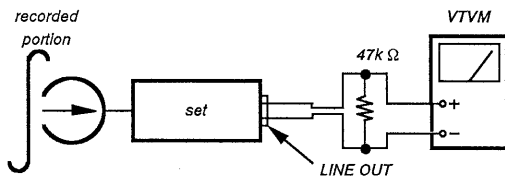
REC LEVEL control : standard record position (Refer to page 7.)

Procedure :

1. Record Mode



2. Playback Mode



1. Adjust RV102 and 202 so that they become maximum.
2. Adjust RV102 (L-CH) and 202(R-CH) so that the difference between R-CH and L-CH at 10 kHz is within 1dB.
3. Adjust RV306 so that the value of R-CH becomes the specified value.

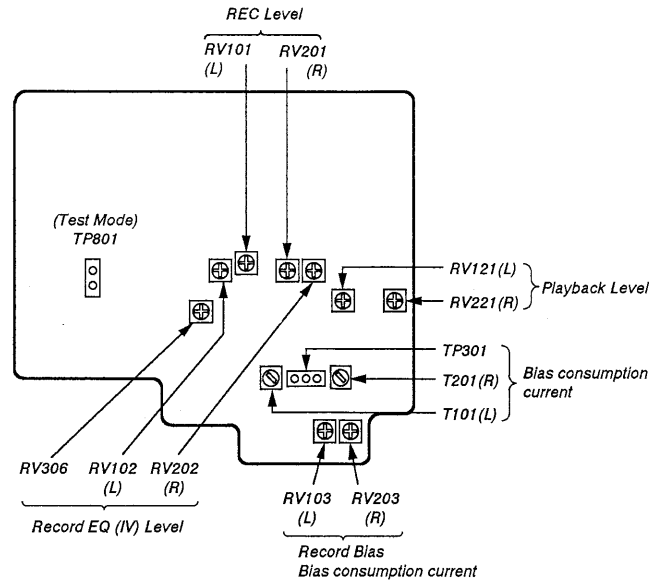
Specified value :
(the level at 10kHz against to 315Hz : $0\text{dB} \pm 1\text{dB}$)

Adjustment Location : MAIN board

— Adjustment Parts Location Diagrams —

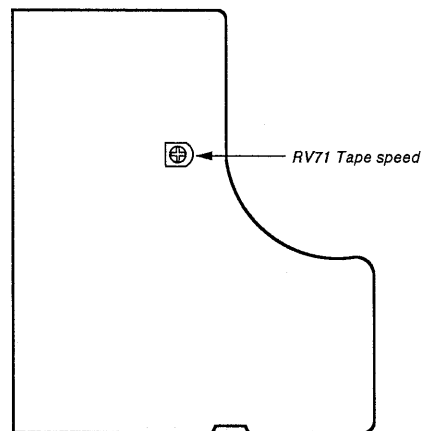
[MAIN BOARD]

(Component Side)



[AUDIO BOARD]

(Component Side)



SECTION 4 EXPLANATION OF IC TERMINALS

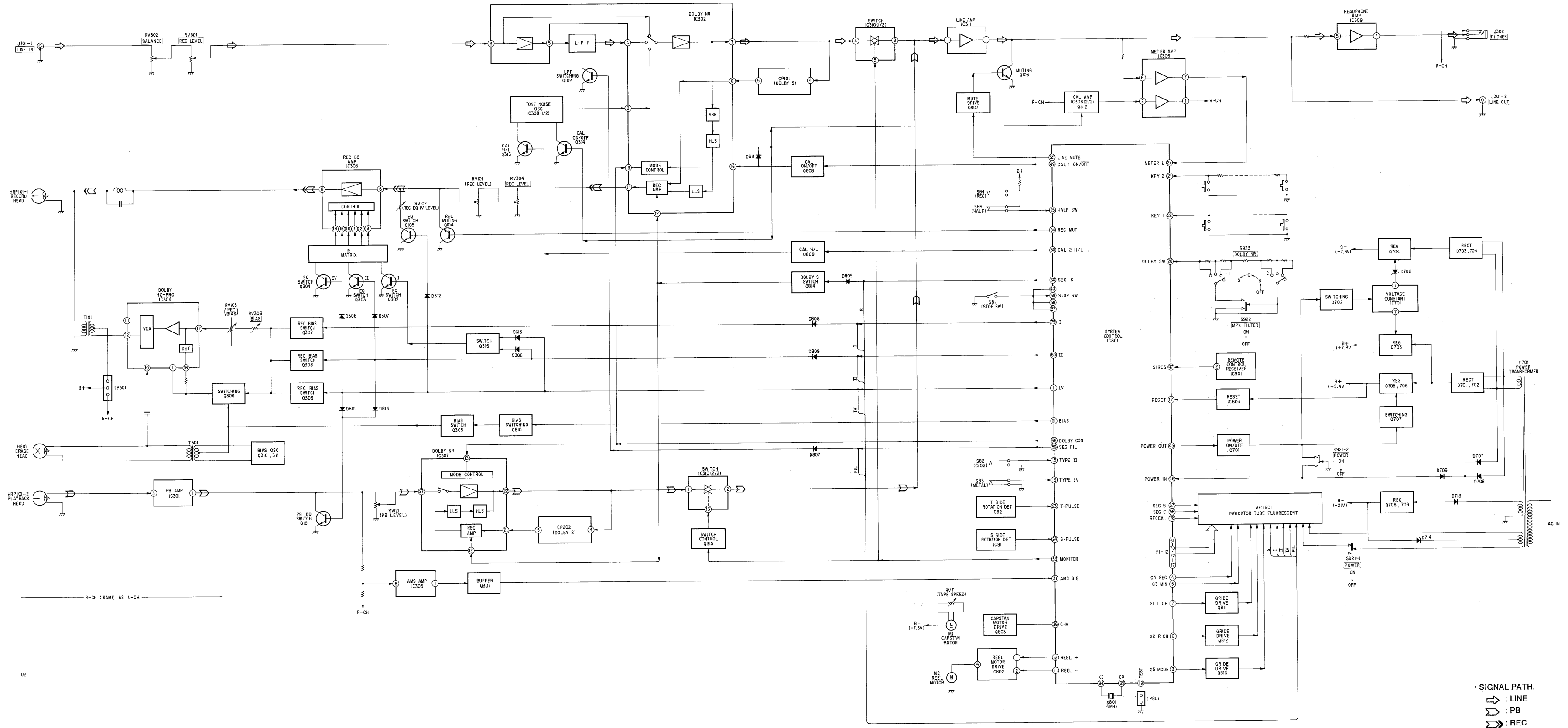
IC801 μ PD78042GF-072-3B9

| Pin No. | Pin name | I/O | Description |
|---------|-------------------|-----|---------------------------------------------------|
| 1 | IV | O | BIAS EQ IV control. |
| 2 | P25 | O | VFD Segment drive. |
| 3 | G5-MODE | O | VFD colum mode. |
| 4 | G4-SEC | O | VFD colum Sec. |
| 5 | G3-MIN | O | VFD colum Min. |
| 6 | G2-RCH | O | VFD colum R-CH. |
| 7 | G1-LCH | O | VFD colum L-CH. |
| 8 | V _{DD} | — | Power supply. (+5V) |
| 9 | NC | — | Not used. (OPEN) |
| 10 | NC | — | Not used. (OPEN) |
| 11 | REEL - | O | Reel motor - output terminal. |
| 12 | REEL+ | O | Reel motor + output terminal. |
| 13 | NC | — | Not used. (OPEN) |
| 14 | NC | — | Not used. (OPEN) |
| 15 | TYPE • II | I | Type II SW input terminal. |
| 16 | TYPE • IV | I | Type IV SW input terminal. |
| 17 | RESET | I | System reset terminal. |
| 18 | NC | — | Not used. (High level) |
| 19 | TEST | I | Test mode terminal. "H" : Normal, "L" : Test mode |
| 20 | AV _{SS} | — | Analog for power supply. (GND) |
| 21 | KEY2 | I | Key input terminal. |
| 22 | KEY1 | I | Key input terminal. |
| 23 | T • PULSE | I | Take up pulse input terminal. |
| 24 | S • PULSE | I | Supply pulse input terminal. |
| 25 | HALF-SW | I | Half pawl input terminal. |
| 26 | DOLBY SW | I | Dolby SW input terminal. |
| 27 | METER-L | I | Meter level L-CH input terminal. |
| 28 | METER-R | I | Meter level R-CH input terminal. |
| 29 | AV _{DD} | — | Analog for power supply. (+5V) |
| 30 | AV _{ref} | — | A/D referance voltage. (+5V) |
| 31 | AMS-SIG | I | AMS signal input terminal. |
| 32 | XT2 | — | Not used. (OPEN) |
| 33 | V _{SS} | — | Power supply. (GND) |
| 34 | XI | I | System clock input terminal. |
| 35 | XO | O | System clock output terminal. |
| 36 | C • M | O | Capstan motor ON/OFF control. ON=0V |
| 37 | NC | — | Not used. (High level) |
| 38 | NC | — | Not used. (High level) |
| 39 | STOP-SW | I | Mechanism stop switch input terminal. |
| 40 | NC | — | Not used. (High level) |

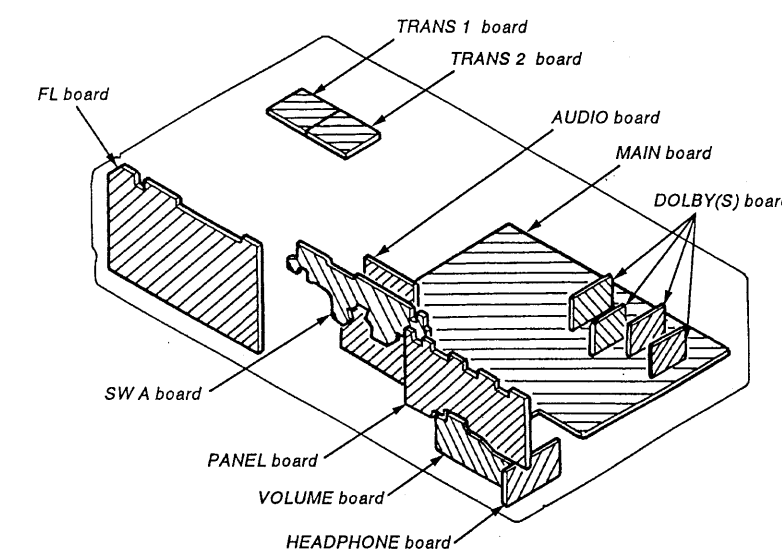
| Pin No. | Pin name | I/O | Description |
|---------|-----------------|-----|--------------------------------------|
| 41 | NC | – | Not used. (GND) |
| 42 | NC | – | Not used. (GND) |
| 43 | NC | – | Not used. (OPEN) |
| 44 | FLY WHEEL PULSE | – | Not used. (GND) |
| 45 | POWER OUT | O | Power ON/OFF control. |
| 46 | POWER IN | I | Power OFF. OFF=0V |
| 47 | SIRCS | I | SIRCS signal input terminal. |
| 48 | IC | – | Not used. (GND) |
| 49 | CAL 1 ON/OFF | O | Calibration ON/OFF control terminal. |
| 50 | CAL 2 H/L | O | Calibration H/L control terminal. |
| 51 | BIAS | O | BIAS ON/OFF control. |
| 52 | VDD | – | Power supply. (+5V) |
| 53 | MONITER | O | Audio mode select terminal. |
| 54 | REC-MUT | O | REC out mute control. |
| 55 | LINE-MUT | O | Line mute ON/OFF control terminal. |
| 56 | DOLBY CON. | O | Dolby ON/OFF control terminal. |
| 57 | SEG B | O | VFD segment drive. (Dolby B) |
| 58 | SEG C | O | VFD segment drive. (Dolby C) |
| 59 | SEG FIL | O | VFD segment drive. (Filter) |
| 60 | SEG S | O | VFD segment drive. (Dolby S) |
| 61 | P1 | O | VFD segment drive. |
| 62 | P2 | O | |
| 63 | P6 | O | |
| 64 | P7 | O | |
| 65 | P3 | O | |
| 66 | P5 | O | |
| 67 | P4 | O | |
| 68 | P8 | O | |
| 69 | P16 | O | |
| 70 | P9 | O | |
| 71 | – 21V | – | VFD power supply. (– 21V) |
| 72 | P10 | O | VFD segment drive. |
| 73 | P14 | O | |
| 74 | P15 | O | |
| 75 | P11 | O | |
| 76 | P13 | O | |
| 77 | P12 | O | |
| 78 | RECCAL | O | VFD segment drive. (REC CAL) |
| 79 | I | O | BIAS EQ I control. |
| 80 | II | O | BIAS EQ II control. |

SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAM



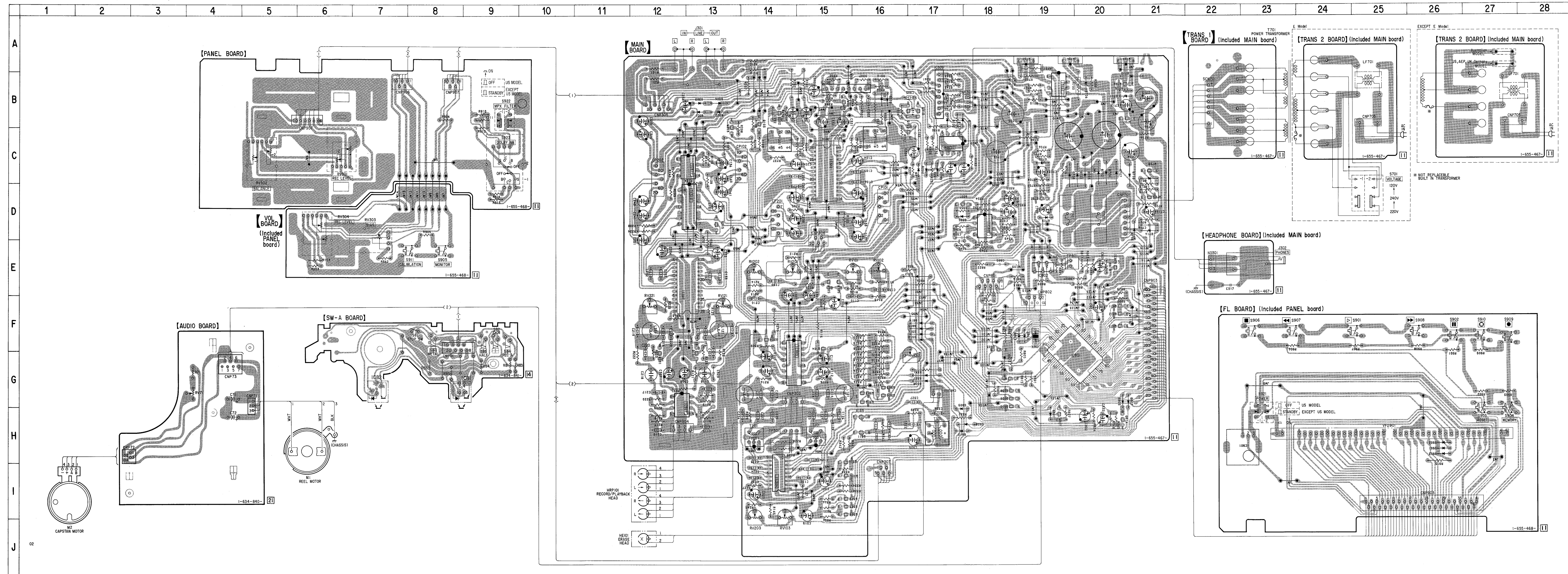
5-2. CIRCUIT BOARDS LOCATION



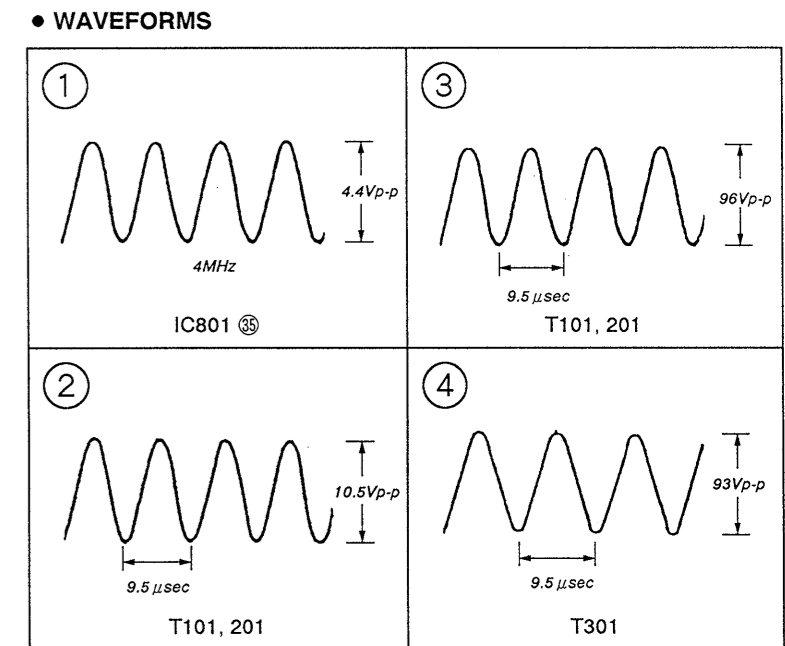
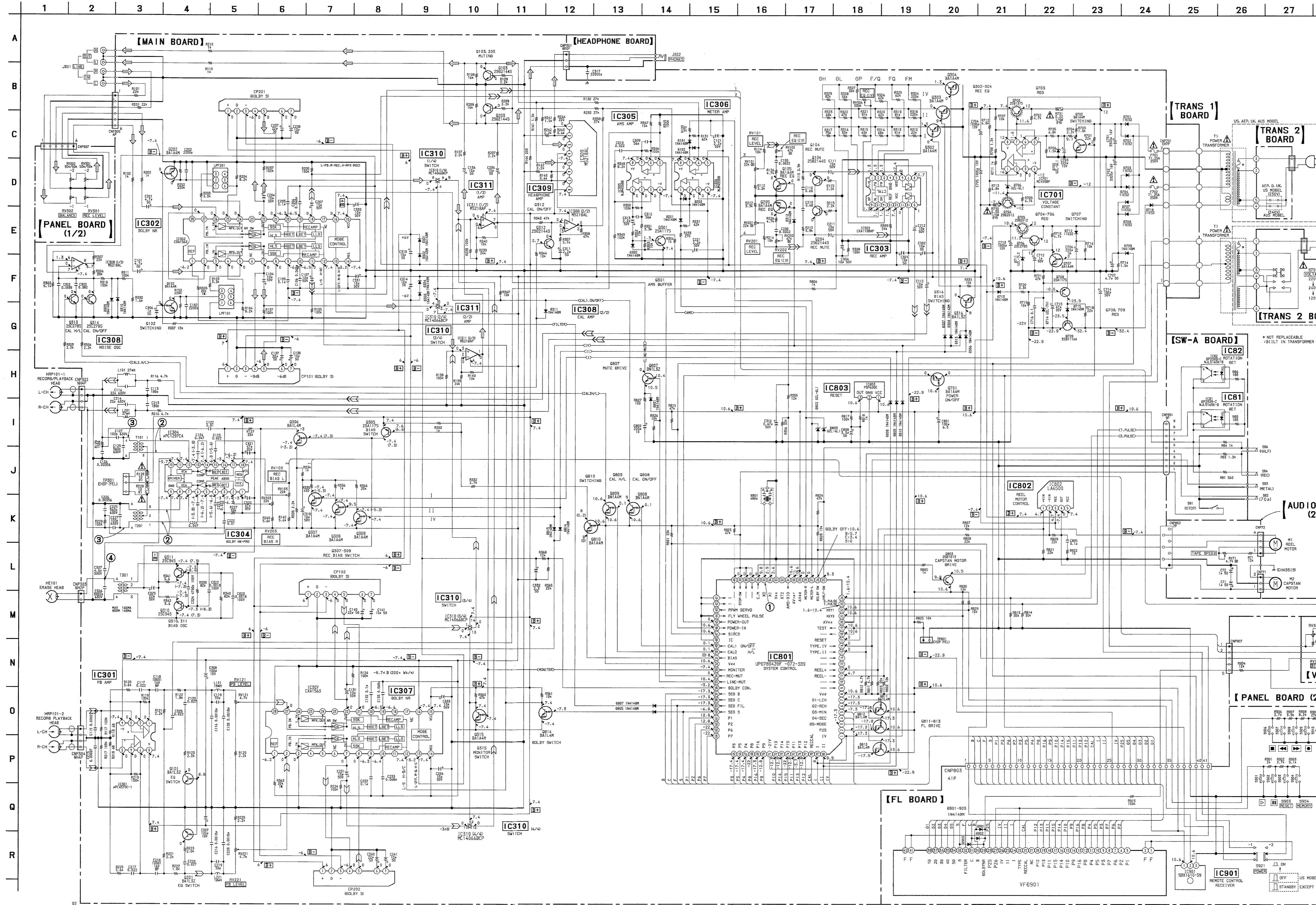
• SEMICONDUCTOR LOCATION

| Ref. No. | Location | Ref. No. | Location | Ref. No. | Location | Ref. No. | Location |
|----------|----------|----------|----------|----------|----------|----------|----------|
| D101 | B-17 | D715 | C-21 | IC801 | G-19 | Q316 | G-16 |
| D102 | B-17 | D718 | C-20 | IC802 | G-20 | Q701 | G-18 |
| D201 | C-17 | D801 | H-19 | IC803 | E-20 | Q702 | D-19 |
| D202 | C-17 | D802 | F-18 | IC901 | H-23 | Q703 | A-19 |
| D301 | B-13 | D803 | F-19 | | | Q704 | A-19 |
| D302 | B-13 | D805 | G-20 | Q101 | G-13 | Q705 | A-20 |
| D303 | B-13 | D807 | G-20 | Q102 | C-16 | Q706 | B-20 |
| D304 | B-13 | D808 | H-17 | Q103 | B-14 | Q707 | B-20 |
| D305 | D-17 | D809 | H-17 | Q104 | F-15 | Q708 | C-21 |
| D306 | F-17 | D810 | H-17 | Q105 | E-15 | Q709 | D-21 |
| D307 | G-17 | D814 | F-17 | Q201 | G-12 | Q803 | F-18 |
| D308 | G-17 | D815 | F-17 | Q202 | B-14 | Q807 | H-19 |
| D309 | B-16 | D901 | H-26 | Q203 | B-13 | Q808 | G-18 |
| D310 | B-16 | D902 | H-26 | Q204 | F-14 | Q809 | G-18 |
| D311 | C-17 | D903 | H-26 | Q205 | E-15 | Q810 | G-18 |
| D312 | E-17 | | | Q301 | D-17 | Q811 | F-20 |
| D313 | F-17 | IC81 | G-8 | Q302 | G-16 | Q812 | F-20 |
| D701 | C-20 | IC82 | G-7 | Q303 | G-16 | Q813 | F-20 |
| D702 | C-20 | IC301 | G-12 | Q304 | G-16 | Q814 | H-20 |
| D703 | C-20 | IC302 | C-15 | Q305 | H-15 | | |
| | | IC303 | G-14 | | | | |
| D704 | C-20 | | | Q306 | I-15 | | |
| D705 | C-19 | IC304 | I-14 | Q307 | I-15 | | |
| D706 | B-20 | IC305 | D-18 | Q308 | I-15 | | |
| D707 | C-20 | IC306 | C-17 | Q309 | I-15 | | |
| D708 | C-19 | IC307 | E-12 | Q310 | H-16 | | |
| | | IC308 | B-15 | | | | |
| D709 | D-19 | | | Q311 | H-16 | | |
| D711 | B-20 | IC309 | B-17 | Q312 | B-15 | | |
| D712 | B-20 | IC310 | D-13 | Q313 | B-17 | | |
| D713 | D-21 | IC311 | C-13 | Q314 | B-17 | | |
| D714 | D-21 | IC701 | B-19 | Q315 | D-13 | | |

Note:
 • ○ — : parts extracted from the component side.
 • ▨ — : Pattern on the side which is seen.



5-4. SCHEMATIC DIAGRAM (MAIN SECTION)



Note:

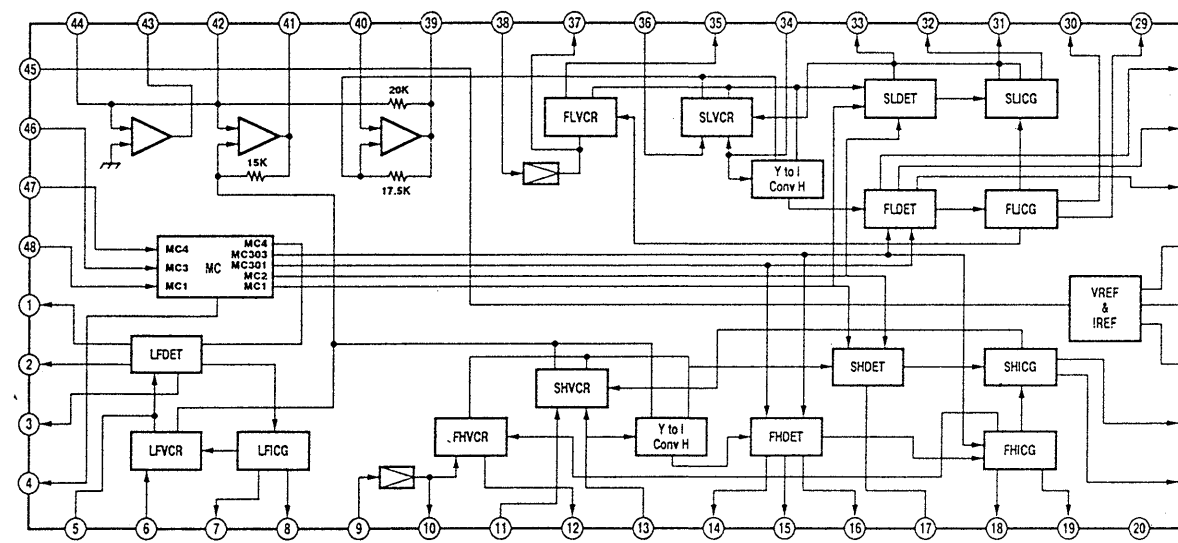
- All capacitors are in μ F unless otherwise noted. pF: μ F
- 50V or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}W$ or less unless otherwise specified.
- % : indicates tolerance.
- Δ : internal component.

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

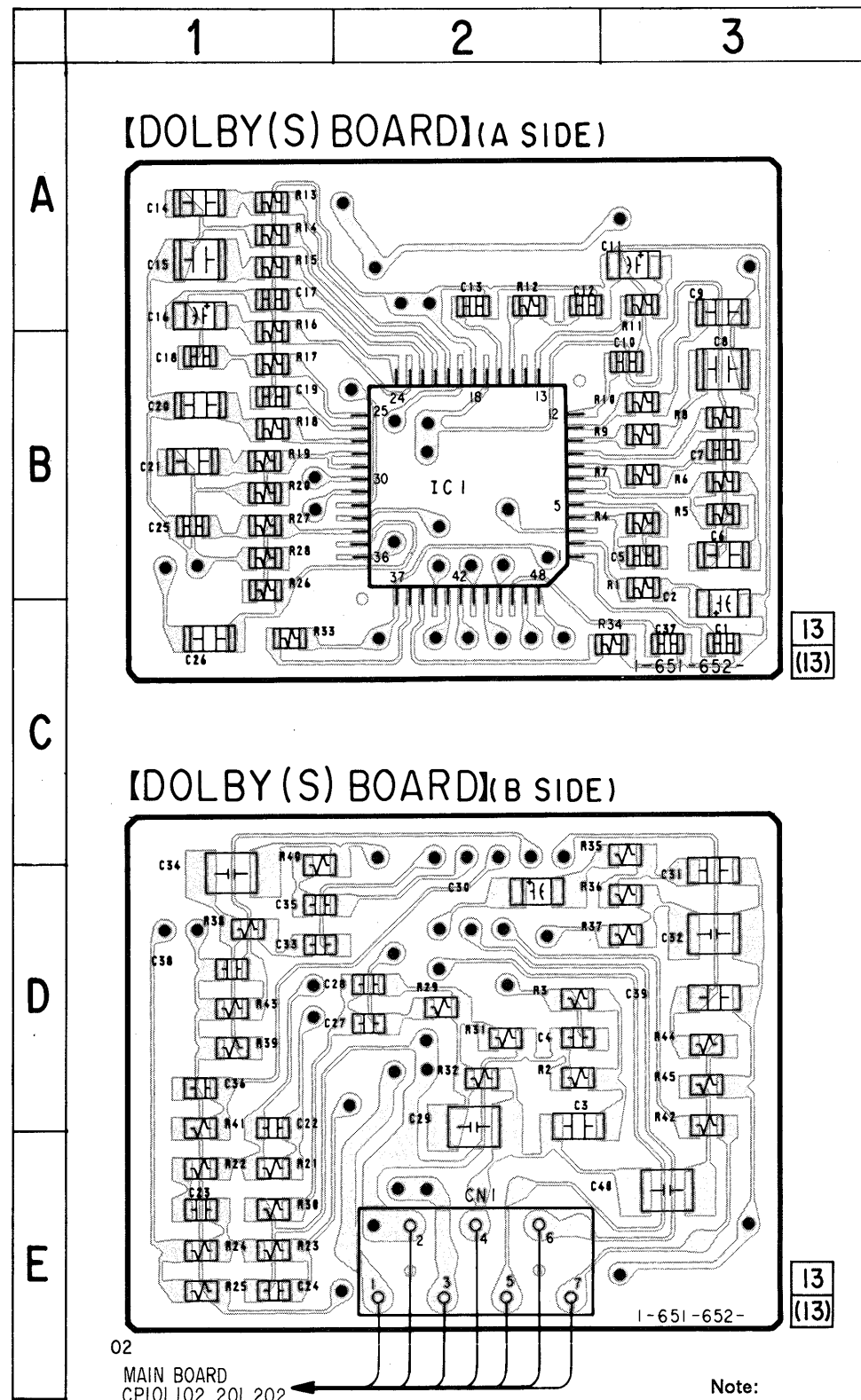
- B+** : B+ Line
- B-** : B- Line
- \square : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark : stop
- () : REC
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with an oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path:
- \rightarrow : LINE
- \rightarrow : PB
- \rightarrow : REC

● IC BLOCK DIAGRAM

IC1 CXA1417Q



5-5. PRINTED WIRING BOARDS (DOLBY (S) BOARD)



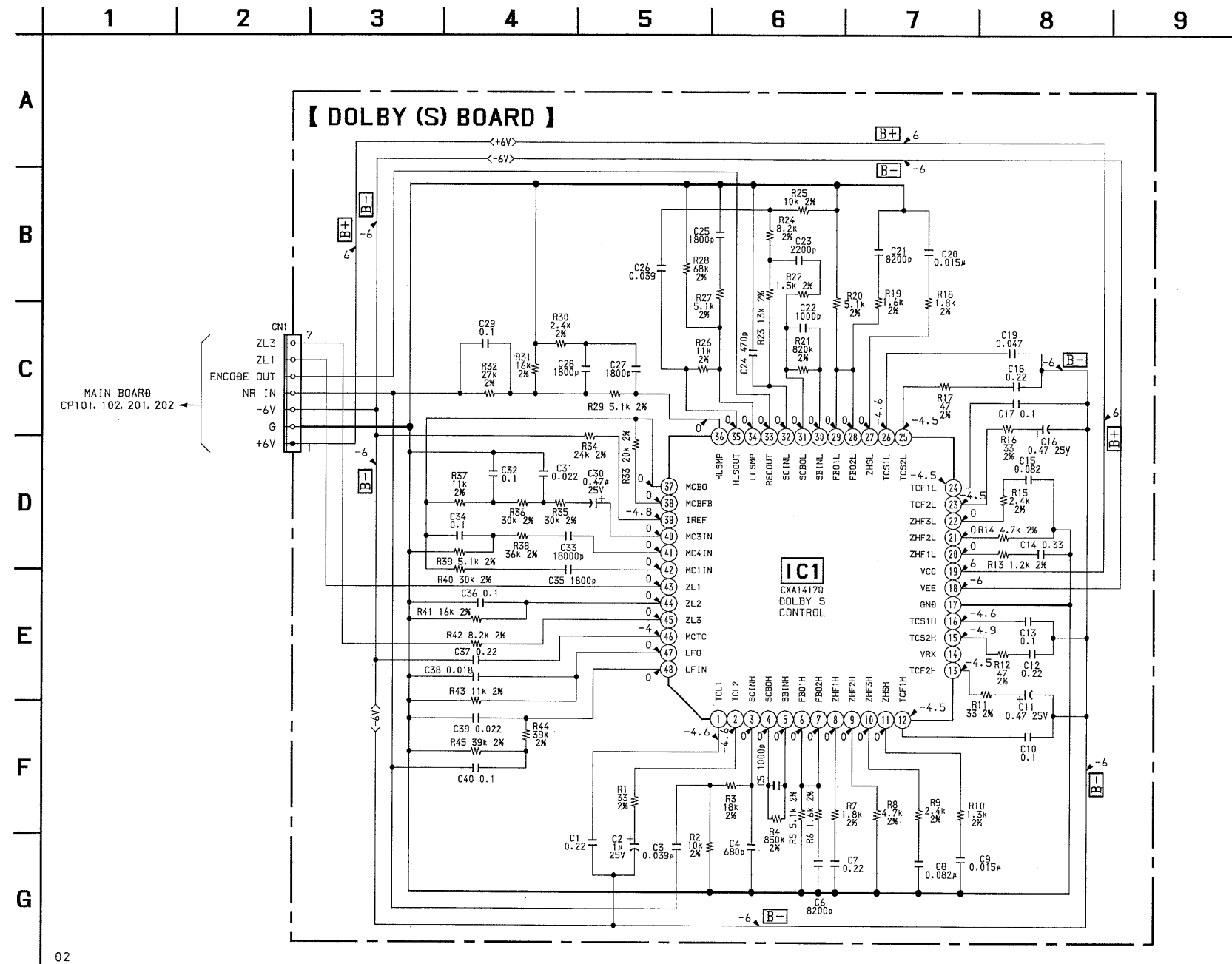
Note:

- : parts extracted from the component side.
- : Through hole.
- ▨ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated)

Caution :

Pattern face side : Parts on the pattern face side seen from (Conductor Side) the pattern face are indicated.
 Parts face side : Parts on the parts face side seen from the (Component side) parts face are indicated.

5-6. SCHEMATIC DIAGRAM (DOLBY (S) BOARD)



Note :

- All capacitors are in μF unless otherwise noted. μF : μF , μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/10W or less unless otherwise specified.
- % : indicates tolerance.
- **[B+]** : B+ Line
- **[B-]** : B- Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
no mark : STOP
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.

SECTION 6 EXPLODED VIEWS

NOTE :

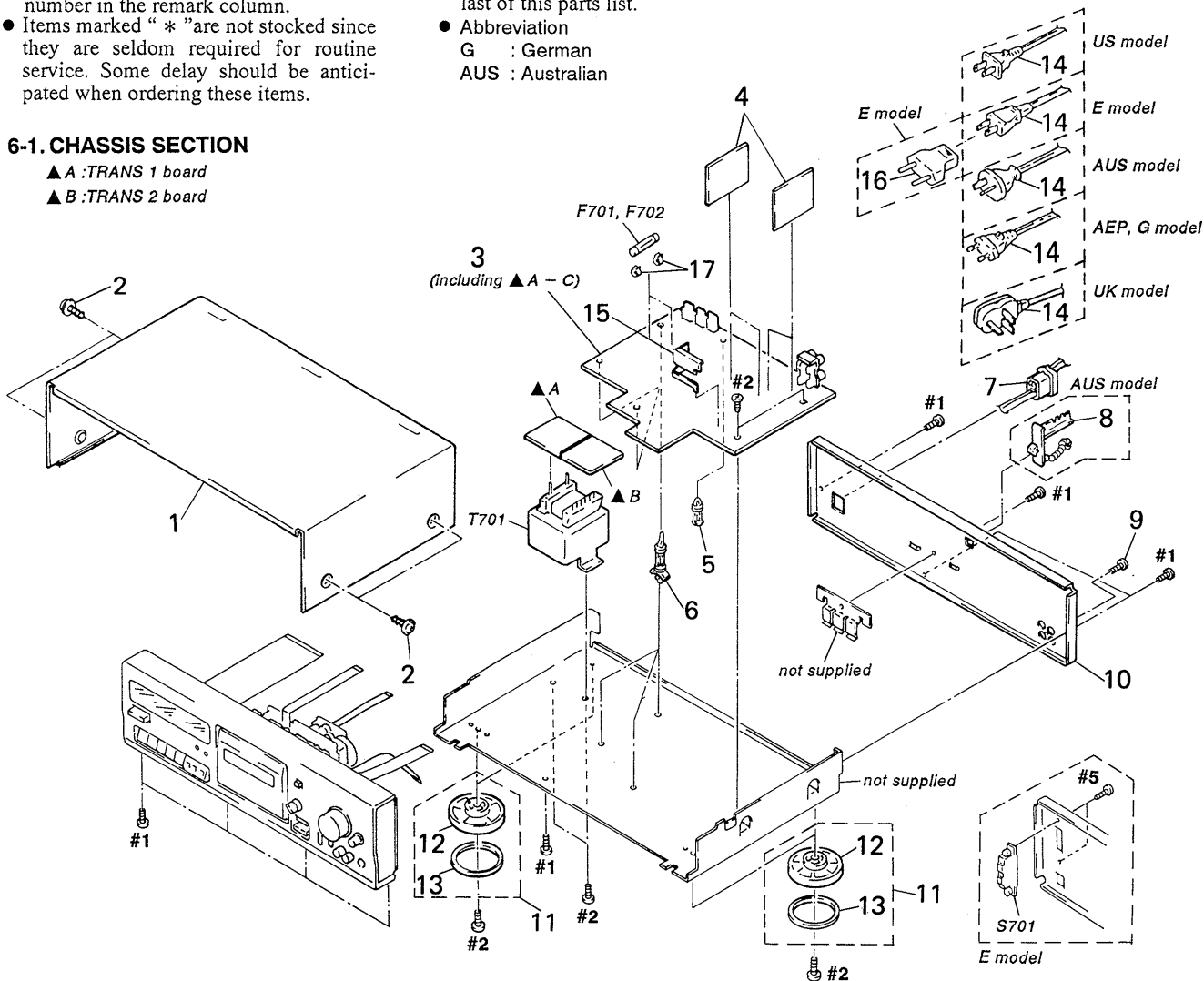
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
G : German
AUS : Australian

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

6-1. CHASSIS SECTION

- \triangle A : TRANS 1 board
- \triangle B : TRANS 2 board



| Ref. No. | Part No. | Description | Remark |
|----------|--------------|----------------------------------------|--------|
| * 1 | 4-943-088-41 | CASE | |
| 2 | 3-363-099-01 | SCREW (CASE 3 TP2) | |
| * 3 | A-2007-362-A | MAIN BOARD, COMPLETE (AEP, UK, G, US) | |
| * 3 | A-2007-363-A | MAIN BOARD, COMPLETE (AUS) | |
| * 3 | A-2007-364-A | MAIN BOARD, COMPLETE (E) | |
| * 4 | A-2007-416-A | DOLBY (S) BOARD, COMPLE | |
| * 5 | 3-669-610-00 | SPACER | |
| * 6 | 3-346-265-31 | HOLDER, PC BOARD | |
| * 7 | 3-703-244-00 | BUSHING (2104), CORD (AEP, UK, G, AUS) | |
| 7 | 3-703-571-11 | BUSHING (S) (4516), CORD (US, E) | |
| 8 | 4-956-370-12 | BAND, PLUG FIXED (AUS) | |
| 9 | 3-704-515-01 | SCREW (BV/RING) | |
| * 10 | 3-920-042-01 | PANEL, BACK (US) | |
| * 10 | 3-920-042-11 | PANEL, BACK (AEP, G) | |
| * 10 | 3-920-042-21 | PANEL, BACK (UK) | |
| * 10 | 3-920-042-31 | PANEL, BACK (E) | |
| * 10 | 3-920-042-41 | PANEL, BACK (AUS) | |
| 11 | X-4941-291-1 | FOOT ASSY (F58175S) (TC-KA1ES) | |
| 11 | X-4941-292-1 | FOOT ASSY (F58175S) (TC-K561S) | |

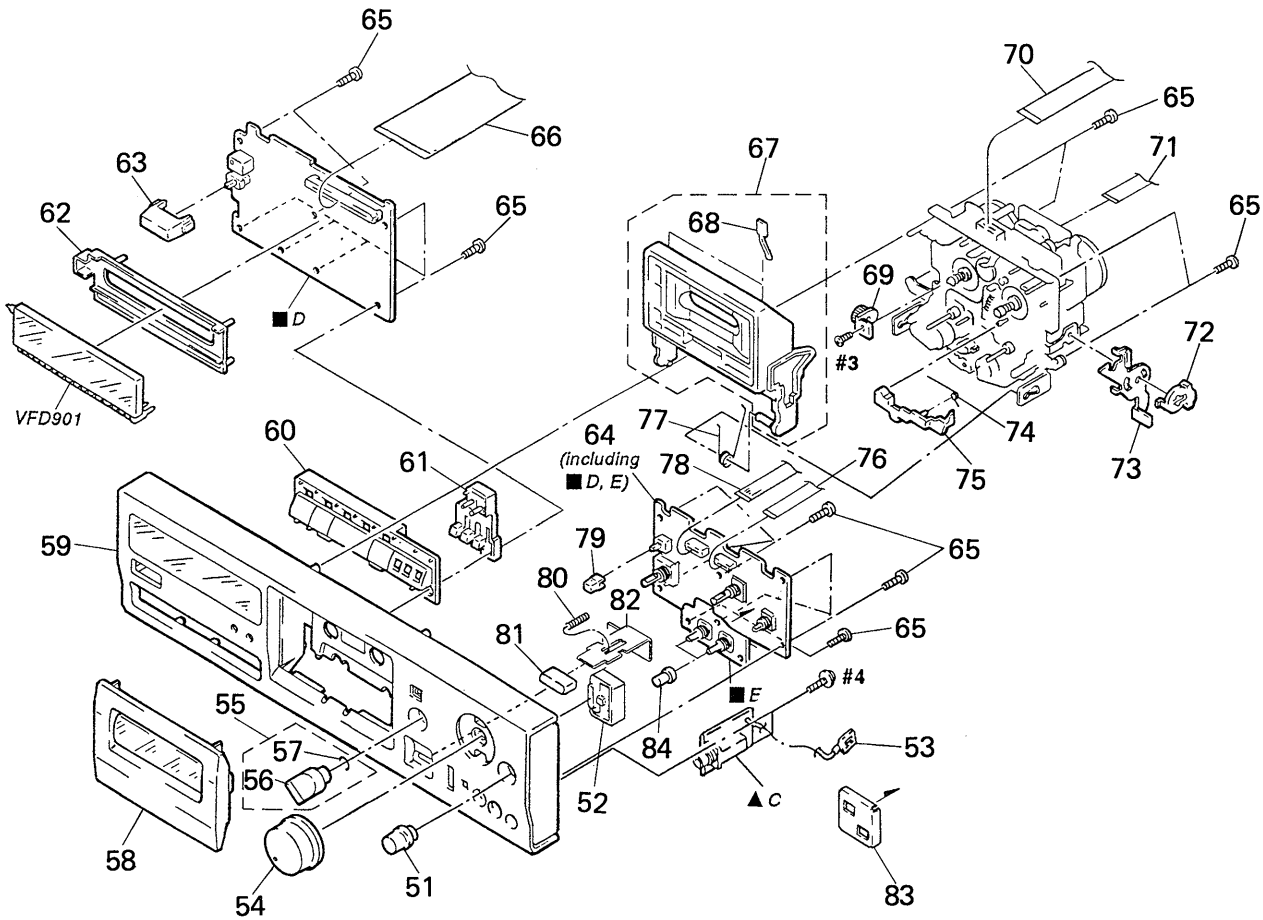
| Ref. No. | Part No. | Description | Remark |
|------------------|--------------|---------------------------------------|--------|
| 12 | 3-318-688-31 | FOOT (F58175S) (TC-K561S) | |
| 12 | 3-318-688-51 | FOOT (F58175S) (TC-KA1ES) | |
| 13 | 4-923-836-21 | CUSHION | |
| \triangle 14 | 1-558-945-21 | CORD, POWER (POLAR. SPT-1) (US) | |
| \triangle 14 | 1-575-651-21 | CORD, POWER (AEP, G) | |
| \triangle 14 | 1-696-027-11 | CORD, POWER (E) | |
| \triangle 14 | 1-696-586-11 | CORD, POWER (UK) | |
| \triangle 14 | 1-696-845-11 | CORD, POWER (AUS) | |
| * 15 | 3-904-545-11 | PLATE (PLAYBACK HD), SHIELD | |
| \triangle 16 | 1-569-007-11 | ADAPTER, CONVERSION 2P (E) | |
| 17 | 1-533-293-11 | FUSE HOLDER | |
| \triangle F701 | 1-532-285-00 | FUSE, TIME-LAG (TC-K561S) | |
| \triangle F701 | 1-532-741-11 | FUSE, GLASS TUBE (TC-KA1ES) | |
| \triangle F702 | 1-532-285-00 | FUSE, TIME-LAG (TC-K561S) | |
| \triangle F702 | 1-532-741-11 | FUSE, GLASS TUBE (TC-KA1ES) | |
| \triangle S701 | 1-692-155-11 | SELECTOR, POWER VOLTAGE (VOLTAGE) (E) | |
| \triangle T701 | 1-426-726-21 | TRANSFORMER, POWER (US) | |
| \triangle T701 | 1-426-727-21 | TRANSFORMER, POWER (AEP, UK, G, AUS) | |
| \triangle T701 | 1-426-728-21 | TRANSFORMER, POWER (E) | |

6-2. FRONT PANEL SECTION

▲ C : HEADPHONE board

■ D : DISPLAY board

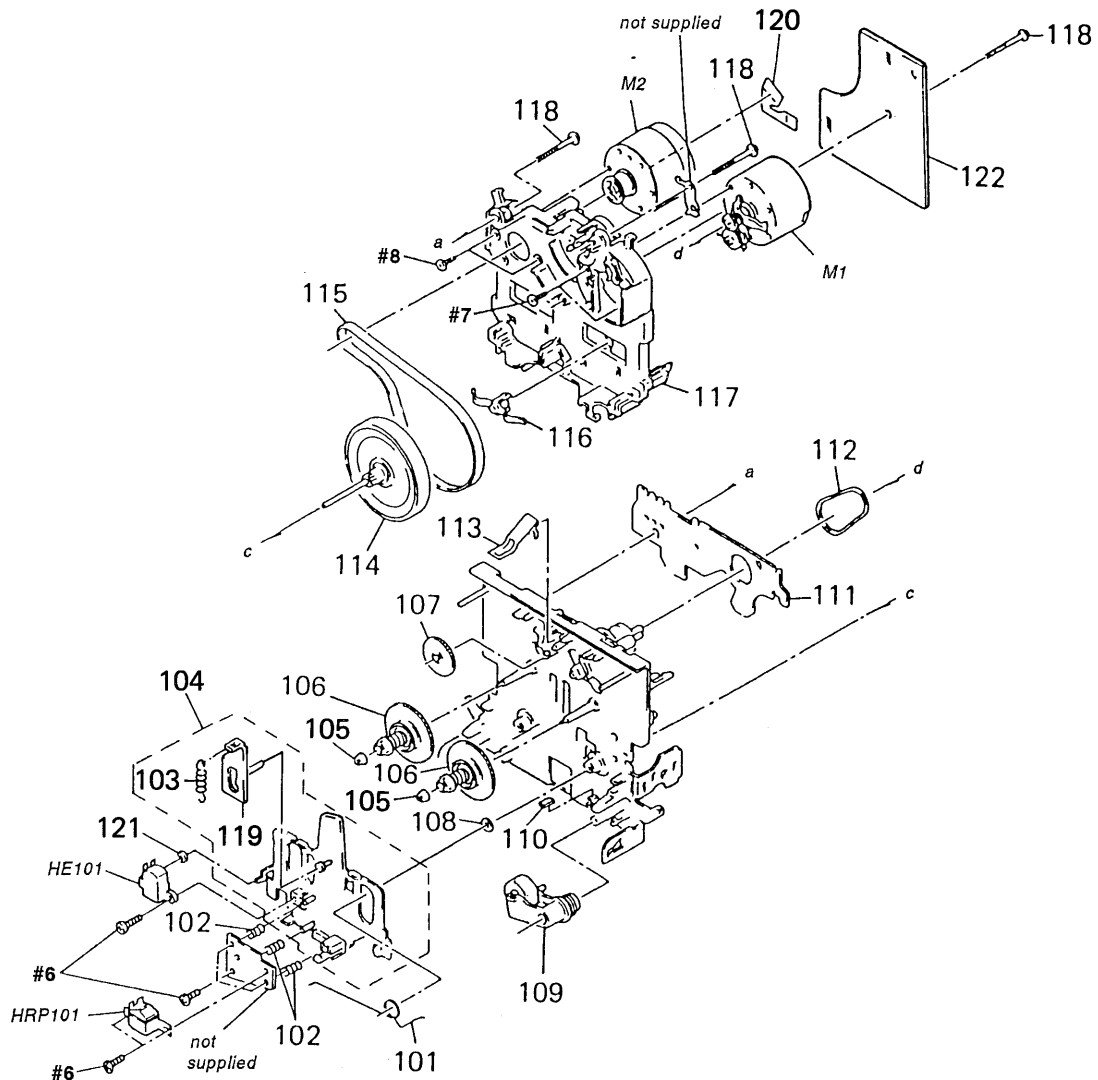
■ E : VOLUME board



| Ref. No. | Part No. | Description | Remark |
|----------|--------------|-------------------------------|--------|
| 51 | X-3368-033-1 | KNOB (RB) ASSY | |
| 52 | 3-387-834-21 | BUTTON (MBC) | |
| * 53 | 1-690-880-31 | LEAD (WITH CONNECTOR) | |
| 54 | 3-389-516-01 | KNOB (REC) | |
| 55 | X-3368-032-1 | KNOB ASSY | |
| 56 | 3-350-440-11 | SPRING, RING | |
| 57 | 4-908-097-21 | KNOB | |
| 58 | X-3369-570-1 | LID ASSY, CASSETTE (TC-KA1ES) | |
| 58 | X-3369-575-1 | LID ASSY, CASSETTE (TC-K561S) | |
| 59 | X-3369-573-1 | PANEL ASSY, FRONT (TC-KA1ES) | |
| 59 | X-3369-574-1 | PANEL ASSY, FRONT (TC-K561S) | |
| 60 | 3-386-247-11 | BUTTON (FW) | |
| 61 | 3-386-248-11 | BUTTON (RE) | |
| * 62 | 3-386-245-01 | HOLDER (FL) | |
| 63 | 3-354-932-01 | BUTTON (POWER) | |
| * 64 | A-2007-361-A | PANEL BOARD, COMPLETE | |
| 65 | 4-951-620-01 | SCREW (2.6×8), +BVTP | |
| 66 | 1-769-406-11 | WIRE (FLAT TYPE) (41 CORE) | |
| 67 | A-2004-357-A | HOLDER (R) ASSY, CASSETTE | |

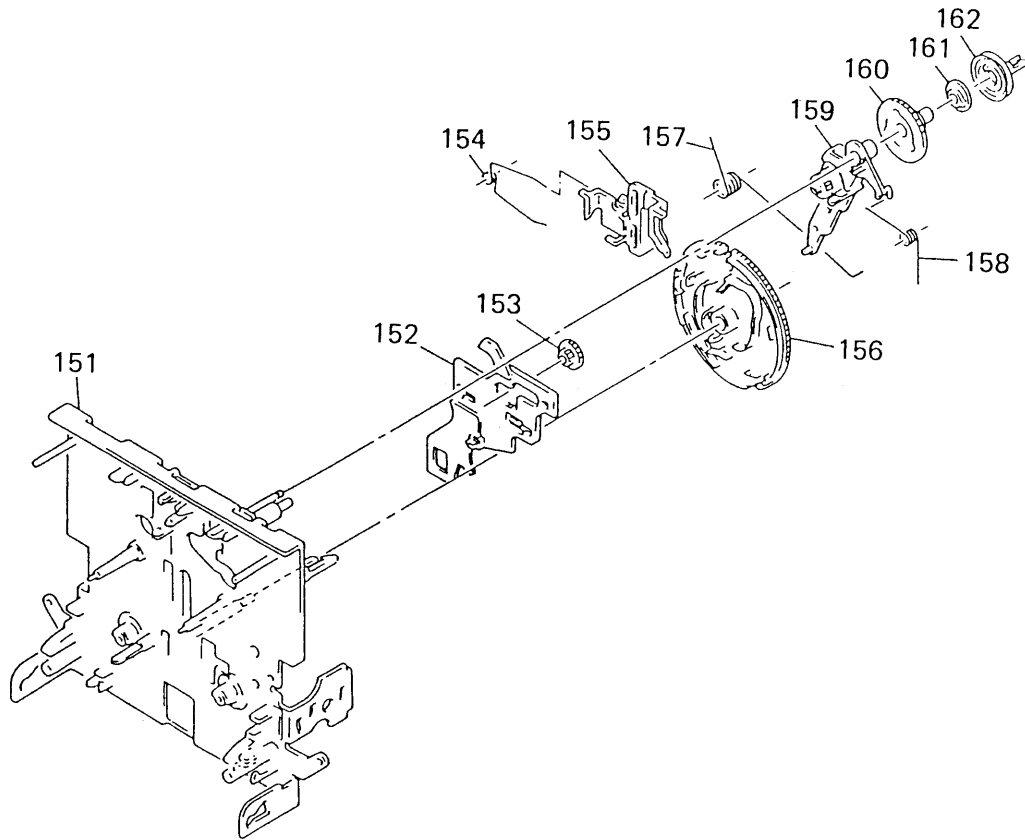
| Ref. No. | Part No. | Description | Remark |
|----------|--------------|-----------------------------|--------|
| 68 | 3-308-823-11 | DETENT, CASSETTE | |
| 69 | 3-354-963-01 | DAMPER | |
| 70 | 1-751-732-11 | WIRE (FLAT TYPE) (9 CORE) | |
| 71 | 1-751-733-11 | WIRE (FLAT TYPE) (7 CORE) | |
| 72 | 3-354-957-01 | JOINT (LOCK LEVER) | |
| * 73 | 3-354-954-01 | LEVER (LOCK LEVER R) | |
| 74 | 3-354-962-01 | SPRING (EJ SAFTY SPRING R) | |
| 75 | 3-354-956-01 | LEVER (EJ SAFTY LEVER R) | |
| 76 | 1-769-431-11 | WIRE (FLAT TYPE) (5 CORE) | |
| 77 | 3-354-960-01 | SPRING (LOADING R), TORSION | |
| 78 | 1-751-734-11 | WIRE (FLAT TYPE) (5 CORE) | |
| 79 | 3-380-952-21 | BUTTON | |
| 80 | 3-359-906-11 | SPRING, COMPRESSION | |
| 81 | 3-387-830-11 | BUTTON (EJECT) | |
| 82 | 3-387-833-11 | SLIDER (EJECT) | |
| * 83 | 3-904-544-11 | PLATE (VOL), SHIELD | |
| 84 | 3-367-431-01 | KNOB (BAL) | |
| VFD901 | 1-517-163-11 | INDICATOR TUBE, FLUORESCENT | |

6-3. MECHANISM SECTION 1
(TCM-190VB14)



| Ref.No. | Part No. | Description | Remark | Ref.No. | Part No. | Description | Remark |
|---------|--------------|----------------------------------|--------|---------|--------------|----------------------------------|--------|
| 101 | 3-911-014-01 | SPRING, TORSION | | 114 | X-3368-368-1 | FLYWHEEL (FWD) COMPLETE ASSY | |
| 102 | 3-356-659-11 | SPRING (RPH), COMPRESSION | | 115 | 3-359-467-01 | BELT (1 WAY FLAT BELT) | |
| 103 | 3-363-868-01 | SPRING (HEAD CHASSIS), TENSION | | 116 | 3-575-321-00 | RETAINER, THRUST, CAPSTAN | |
| * 104 | X-3369-024-1 | SLIDER (HEAD CHASSIS) ASSY | | 117 | 3-911-007-11 | BASE (THRUST RETAINER), FITTING | |
| 105 | 3-362-308-01 | CAP (REEL) | | 118 | 3-359-414-01 | SCREW (+PTPWH 2×23) | |
| 106 | X-3366-971-1 | TABLE ASSY (B), REEL | | * 119 | X-3368-865-1 | SLIDER (LIMITER) ASSY | |
| 107 | 3-359-424-01 | GEAR (REV GEAR) | | 120 | 1-638-983-11 | MOTOR FLEXIBLE BOARD | |
| 108 | 3-356-713-01 | WASHER | | 121 | 3-701-437-11 | WASHER | |
| 109 | X-3366-047-1 | LEVER (PINCH F) ASSY | | * 122 | 1-634-840-21 | AUDIO BOARD | |
| 110 | 3-359-469-01 | SPACER | | HE101 | 1-543-673-11 | HEAD, MAGNETIC (ERASE) | |
| * 111 | 1-634-841-14 | SW-A BOARD | | HRP101 | 1-543-733-11 | HEAD, MAGNETIC (RECORD/PLAYBACK) | |
| 112 | 3-359-466-01 | BELT (FR), SQUARE | | M1 | X-3363-501-2 | MOTOR ASSY (REEL) | |
| 113 | 3-359-430-01 | SPRING (CASSETTE RETAINER), LEAF | | M2 | X-3368-855-1 | MOTOR ASSY (CAPSTAN) | |

6-4. MECHANISM SECTION 2
(TCM-190VB14)



| <u>Ref.No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Remark</u> | <u>Ref.No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Remark</u> |
|----------------|-----------------|--------------------------------|---------------|----------------|-----------------|----------------------------------|---------------|
| 151 | X-3368-719-2 | CHASSIS (ONE) ASSY, MECHANICAL | | 157 | 3-359-456-01 | SPRING (TRIGGER SPRING), TORSION | |
| 152 | 3-359-415-11 | SLIDER (TRIGGER SLIDER) | | 158 | 3-924-185-11 | SPRING (FR ARM), TORSION | |
| 153 | 3-359-448-01 | GEAR (TRIGGER) | | 159 | X-3366-569-1 | ARM ASSY, FR | |
| 154 | 3-359-454-01 | SPRING, TORSION | | 160 | 3-359-419-11 | GEAR (FR GEAR) | |
| 155 | 3-359-429-11 | SLIDER (BRAKE PLATE) | | 161 | 3-359-421-01 | CLUTCH (REEL DISK) | |
| 156 | 3-359-420-01 | GEAR (CAM GEAR) | | 162 | 3-359-418-01 | PULLEY (FR PULLEY) | |

SECTION 7 ELECTRICAL PARTS LIST

AUDIO
DOLBY (S)

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms
METAL : Metal-film resistor
METAL OXIDE : Metal oxide-film resistor
F : nonflammable

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

● SEMICONDUCTORS

In each case, u : μ , for example :
 uA.... : μ A.... , uPA.... : μ PA....
 uPB.... : μ PB.... , uPC.... : μ PC....
 uPD.... : μ PD....

● CAPACITORS

uF : μ F

● COILS

uH : μ H

● Abbreviation

G : German

AUS : Australian

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

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

| Ref.No. | Part No. | Description | Remark | Ref.No. | Part No. | Description | Remark |
|----------------|-----------------------------------------------------|---------------------------------------|---------|---------|--------------|-----------------------|----------|
| * | 1-634-840-21 | AUDIO BOARD ***** < CAPACITOR > | | C16 | 1-135-145-11 | TANTALUM CHIP 0.47uF | 10% 35V |
| C71 | 1-124-903-11 | ELECT 1uF | 20% 50V | C17 | 1-165-319-11 | CERAMIC CHIP 0.1uF | 50V |
| C72 | 1-124-903-11 | ELECT 1uF | 20% 50V | C18 | 1-164-222-11 | CERAMIC CHIP 0.22uF | 25V |
| | | < CONNECTOR > | | C19 | 1-163-035-00 | CERAMIC CHIP 0.047uF | 50V |
| * CNP71 | 1-564-705-11 | PIN, CONNECTOR (SMALL TYPE) 3P | | C20 | 1-104-553-11 | FILM CHIP 0.015uF | 5% 16V |
| * CNP72 | 1-764-902-11 | CONNECTOR, FFC/FPC 4P | | C21 | 1-164-717-11 | CERAMIC CHIP 0.0082uF | 5% 50V |
| * CNP73 | 1-568-826-11 | SOCKET, CONNECTOR 7P | | C22 | 1-163-009-11 | CERAMIC CHIP 0.001uF | 10% 50V |
| | | < RESISTOR > | | C23 | 1-164-161-11 | CERAMIC CHIP 0.0022uF | 10% 100V |
| R71 | 1-249-430-11 | CARBON 12K 5% 1/4W | | C24 | 1-163-005-11 | CERAMIC CHIP 470PF | 10% 50V |
| | | < VARIABLE RESISTOR > | | C25 | 1-163-012-00 | CERAMIC CHIP 0.0018uF | 10% 50V |
| RV71 | 1-238-599-11 | RES, ADJ, CARBON 4.7K (TAPE SPEED) | | C26 | 1-104-558-11 | FILM CHIP 0.039uF | 5% 16V |
| ***** | | | | C27 | 1-163-012-00 | CERAMIC CHIP 0.0018uF | 10% 50V |
| * A-2007-416-A | DOLBY (S) BOARD, COMPLETE ***** < CAPACITOR > | | | C28 | 1-163-012-00 | CERAMIC CHIP 0.0018uF | 10% 50V |
| C1 | 1-164-222-11 | CERAMIC CHIP 0.22uF | 25V | C29 | 1-104-563-11 | FILM CHIP 0.1uF | 5% 16V |
| C2 | 1-135-177-21 | TANTALUM CHIP 1uF | 20% 20V | C30 | 1-135-145-11 | TANTALUM CHIP 0.47uF | 10% 35V |
| C3 | 1-104-558-11 | FILM CHIP 0.039uF | 5% 16V | C31 | 1-104-555-11 | FILM CHIP 0.022uF | 5% 16V |
| C4 | 1-163-007-11 | CERAMIC CHIP 680PF | 10% 50V | C32 | 1-104-563-11 | FILM CHIP 0.1uF | 5% 16V |
| C5 | 1-163-009-11 | CERAMIC CHIP 0.001uF | 10% 50V | C33 | 1-163-024-00 | CERAMIC CHIP 0.018uF | 10% 50V |
| C6 | 1-164-717-11 | CERAMIC CHIP 0.0082uF | 5% 50V | C34 | 1-104-563-11 | FILM CHIP 0.1uF | 5% 16V |
| C7 | 1-164-222-11 | CERAMIC CHIP 0.22uF | 25V | C35 | 1-163-012-00 | CERAMIC CHIP 0.0018uF | 10% 50V |
| C8 | 1-104-562-11 | FILM CHIP 0.082uF | 5% 16V | C36 | 1-165-319-11 | CERAMIC CHIP 0.1uF | 50V |
| C9 | 1-104-553-11 | FILM CHIP 0.015uF | 5% 16V | C37 | 1-164-222-11 | CERAMIC CHIP 0.22uF | 25V |
| C10 | 1-165-319-11 | CERAMIC CHIP 0.1uF | 50V | C38 | 1-163-024-00 | CERAMIC CHIP 0.018uF | 10% 50V |
| C11 | 1-135-145-11 | TANTALUM CHIP 0.47uF | 10% 35V | C39 | 1-104-555-11 | FILM CHIP 0.022uF | 5% 16V |
| C12 | 1-164-222-11 | CERAMIC CHIP 0.22uF | 25V | C40 | 1-104-563-11 | FILM CHIP 0.1uF | 5% 16V |
| C13 | 1-165-319-11 | CERAMIC CHIP 0.1uF | 50V | | | < CONNECTOR > | |
| C14 | 1-162-568-11 | CERAMIC CHIP 0.33uF | 10% 16V | CN1 | 1-695-092-11 | SOCKET, CONNECTOR 7P | |
| C15 | 1-104-562-11 | FILM CHIP 0.082uF | 5% 16V | | | < IC > | |
| | | | | IC1 | 8-752-056-51 | IC CXA1417Q | |
| | | | | | | < RESISTOR > | |
| | | | | R1 | 1-216-615-11 | METAL CHIP 33 0.5% | 1/10W |
| | | | | R2 | 1-208-806-11 | METAL GLAZE 10K 2% | 1/10W |
| | | | | R3 | 1-208-812-11 | METAL GLAZE 18K 2% | 1/10W |
| | | | | R4 | 1-216-119-00 | METAL CHIP 820K 5% | 1/10W |
| | | | | R5 | 1-208-799-11 | METAL GLAZE 5.1K 2% | 1/10W |

DOLBY (S)**MAIN****HEADPHONE****TRANS 1****TRANS 2**

| Ref. No. | Part No. | Description | Remark | | |
|----------|--------------|-------------|--------|------|-------|
| R6 | 1-208-787-11 | METAL GLAZE | 1.6K | 2% | 1/10W |
| R7 | 1-216-657-11 | METAL CHIP | 1.8K | 0.5% | 1/10W |
| R8 | 1-216-667-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R9 | 1-208-791-11 | METAL GLAZE | 2.4K | 2% | 1/10W |
| R10 | 1-216-052-00 | METAL CHIP | 1.3K | 5% | 1/10W |
| R11 | 1-216-615-11 | METAL CHIP | 33 | 0.5% | 1/10W |
| R12 | 1-216-619-11 | METAL CHIP | 47 | 0.5% | 1/10W |
| R13 | 1-208-784-11 | METAL GLAZE | 1.2K | 2% | 1/10W |
| R14 | 1-216-667-11 | METAL CHIP | 4.7K | 0.5% | 1/10W |
| R15 | 1-208-791-11 | METAL GLAZE | 2.4K | 2% | 1/10W |
| R16 | 1-216-615-11 | METAL CHIP | 33 | 0.5% | 1/10W |
| R17 | 1-216-619-11 | METAL CHIP | 47 | 0.5% | 1/10W |
| R18 | 1-216-657-11 | METAL CHIP | 1.8K | 0.5% | 1/10W |
| R19 | 1-208-787-11 | METAL GLAZE | 1.6K | 2% | 1/10W |
| R20 | 1-208-799-11 | METAL GLAZE | 5.1K | 2% | 1/10W |
| R21 | 1-216-119-00 | METAL CHIP | 820K | 5% | 1/10W |
| R22 | 1-216-655-11 | METAL CHIP | 1.5K | 0.5% | 1/10W |
| R23 | 1-216-678-11 | METAL CHIP | 13K | 0.5% | 1/10W |
| R24 | 1-216-673-11 | METAL CHIP | 8.2K | 0.5% | 1/10W |
| R25 | 1-208-806-11 | METAL GLAZE | 10K | 2% | 1/10W |
| R26 | 1-216-676-11 | METAL CHIP | 11K | 0.5% | 1/10W |
| R27 | 1-208-799-11 | METAL GLAZE | 5.1K | 2% | 1/10W |
| R28 | 1-216-695-11 | METAL CHIP | 68K | 0.5% | 1/10W |
| R29 | 1-208-799-11 | METAL GLAZE | 5.1K | 2% | 1/10W |
| R30 | 1-208-791-11 | METAL GLAZE | 2.4K | 2% | 1/10W |
| R31 | 1-208-811-11 | METAL GLAZE | 16K | 2% | 1/10W |
| R32 | 1-216-685-11 | METAL CHIP | 27K | 0.5% | 1/10W |
| R33 | 1-208-813-11 | METAL GLAZE | 20K | 2% | 1/10W |
| R34 | 1-216-684-11 | METAL CHIP | 24K | 0.5% | 1/10W |
| R35 | 1-208-817-11 | METAL GLAZE | 30K | 2% | 1/10W |
| R36 | 1-208-817-11 | METAL GLAZE | 30K | 2% | 1/10W |
| R37 | 1-216-676-11 | METAL CHIP | 11K | 0.5% | 1/10W |
| R38 | 1-208-819-11 | METAL GLAZE | 36K | 2% | 1/10W |
| R39 | 1-208-799-11 | METAL GLAZE | 5.1K | 2% | 1/10W |
| R40 | 1-208-817-11 | METAL GLAZE | 30K | 2% | 1/10W |
| R41 | 1-208-811-11 | METAL GLAZE | 16K | 2% | 1/10W |
| R42 | 1-216-673-11 | METAL CHIP | 8.2K | 0.5% | 1/10W |
| R43 | 1-216-676-11 | METAL CHIP | 11K | 0.5% | 1/10W |
| R44 | 1-216-689-11 | METAL CHIP | 39K | 0.5% | 1/10W |
| R45 | 1-216-689-11 | METAL CHIP | 39K | 0.5% | 1/10W |

| Ref. No. | Part No. | Description | Remark | | |
|----------|--------------|---------------------------------------|----------|-----|------|
| * | A-2007-362-A | MAIN BOARD, COMPLETE (AEP, UK, G, US) | | | |
| * | A-2007-363-A | MAIN BOARD, COMPLETE (AUS) | | | |
| * | A-2007-364-A | MAIN BOARD, COMPLETE (E) | | | |
| | | ***** | | | |
| | | HEADPHONE BOARD | | | |
| | | ***** | | | |
| | | TRANS 1 BOARD | | | |
| | | ***** | | | |
| | | TRANS 2 BOARD | | | |
| | | ***** | | | |
| | 1-533-293-11 | FUSE HOLDER | | | |
| * | 1-690-880-31 | LEAD (WITH CONNECTOR) | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |
| C102 | 1-162-302-11 | CERAMIC | 0.0022uF | 20% | 16V |
| C104 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C105 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C106 | 1-136-163-00 | FILM | 0.068uF | 5% | 50V |
| C107 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C110 | 1-136-175-00 | FILM | 0.68uF | 5% | 50V |
| C111 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C112 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C113 | 1-137-428-11 | FILM | 180PF | 5% | 50V |
| C114 | 1-136-935-11 | FILM | 22PF | 5% | 630V |
| C115 | 1-137-429-11 | FILM | 270PF | 5% | 50V |
| C116 | 1-137-434-11 | FILM | 0.0018uF | 5% | 50V |
| C117 | 1-136-157-00 | FILM | 0.022uF | 5% | 50V |
| C118 | 1-107-714-11 | ELECT | 10uF | 20% | 16V |
| C119 | 1-102-518-11 | CERAMIC | 33PF | 5% | 50V |
| C120 | 1-137-441-11 | FILM | 0.027uF | 5% | 50V |
| C121 | 1-124-925-11 | ELECT | 2.2uF | 20% | 100V |
| C122 | 1-136-153-00 | FILM | 0.01uF | 5% | 50V |
| C123 | 1-136-157-00 | FILM | 0.022uF | 5% | 50V |
| C124 | 1-136-161-00 | FILM | 0.047uF | 5% | 50V |
| C125 | 1-136-803-11 | FILM | 560PF | 5% | 630V |
| C126 | 1-137-431-11 | FILM | 560PF | 5% | 50V |
| C127 | 1-136-433-11 | FILM | 100PF | 5% | 630V |
| C128 | 1-137-434-11 | FILM | 0.0018uF | 5% | 50V |
| C130 | 1-137-366-11 | FILM | 0.0022uF | 5% | 50V |
| C131 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C132 | 1-136-165-00 | FILM | 0.1uF | 5% | 50V |
| C133 | 1-136-163-00 | FILM | 0.068uF | 5% | 50V |
| C136 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C137 | 1-124-916-11 | ELECT | 22uF | 20% | 63V |
| C138 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C140 | 1-124-916-11 | ELECT | 22uF | 20% | 63V |
| C141 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C201 | 1-126-963-11 | ELECT | 4.7uF | 20% | 50V |

MAIN

HEADPHONE

TRANS 1

TRANS 2

| Ref. No. | Part No. | Description | | Remark | Ref. No. | Part No. | Description | | Remark |
|----------|--------------|-------------|----------|----------|---------------|--------------|---------------------------|----------|-------------|
| C202 | 1-162-302-11 | CERAMIC | 0.0022uF | 20% 16V | C317 | 1-161-494-00 | CERAMIC | 0.022uF | 25V |
| C204 | 1-124-907-11 | ELECT | 10uF | 20% 50V | C319 | 1-124-907-11 | ELECT | 10uF | 20% 50V |
| C205 | 1-136-165-00 | FILM | 0.1uF | 5% 50V | C320 | 1-126-967-11 | ELECT | 47uF | 20% 35V |
| C206 | 1-136-163-00 | FILM | 0.068uF | 5% 50V | C321 | 1-126-967-11 | ELECT | 47uF | 20% 35V |
| C207 | 1-124-907-11 | ELECT | 10uF | 20% 50V | C322 | 1-106-349-00 | MYLAR | 0.0018uF | 5% 100V |
| C210 | 1-136-175-00 | FILM | 0.68uF | 5% 50V | C323 | 1-106-349-00 | MYLAR | 0.0018uF | 5% 100V |
| C211 | 1-124-907-11 | ELECT | 10uF | 20% 50V | C324 | 1-106-359-00 | MYLAR | 4700PF | 5% 200V |
| C212 | 1-124-907-11 | ELECT | 10uF | 20% 50V | C325 | 1-124-916-11 | ELECT | 22uF | 20% 63V |
| C213 | 1-137-428-11 | FILM | 180PF | 5% 50V | C326 | 1-136-558-11 | FILM | 0.0039uF | 5% 630V |
| C214 | 1-136-935-11 | FILM | 22PF | 5% 630V | C327 | 1-107-584-11 | CERAMIC | 4PF | 0.25PF 500V |
| C215 | 1-137-429-11 | FILM | 270PF | 5% 50V | C329 | 1-161-494-00 | CERAMIC | 0.022uF | 25V |
| C216 | 1-137-434-11 | FILM | 0.0018uF | 5% 50V | C330 | 1-124-907-11 | ELECT | 10uF | 20% 50V |
| C217 | 1-136-157-00 | FILM | 0.022uF | 5% 50V | C331 | 1-124-907-11 | ELECT | 10uF | 20% 50V |
| C218 | 1-107-714-11 | ELECT | 10uF | 20% 16V | C332 | 1-124-925-11 | ELECT | 2.2uF | 20% 100V |
| C219 | 1-102-518-11 | CERAMIC | 33PF | 5% 50V | C333 | 1-124-907-11 | ELECT | 10uF | 20% 50V |
| C220 | 1-137-441-11 | FILM | 0.027uF | 5% 50V | C334 | 1-124-907-11 | ELECT | 10uF | 20% 50V |
| C221 | 1-124-925-11 | ELECT | 2.2uF | 20% 100V | C701 | 1-126-936-11 | ELECT | 3300uF | 20% 16V |
| C222 | 1-136-153-00 | FILM | 0.01uF | 5% 50V | C702 | 1-126-936-11 | ELECT | 3300uF | 20% 16V |
| C223 | 1-136-157-00 | FILM | 0.022uF | 5% 50V | C703 | 1-104-666-11 | ELECT | 220uF | 20% 10V |
| C224 | 1-136-161-00 | FILM | 0.047uF | 5% 50V | C704 | 1-126-926-11 | ELECT | 1000uF | 20% 10V |
| C225 | 1-136-803-11 | FILM | 560PF | 5% 630V | C705 | 1-126-926-11 | ELECT | 1000uF | 20% 10V |
| C226 | 1-137-431-11 | FILM | 560PF | 5% 50V | C706 | 1-124-120-11 | ELECT | 220uF | 20% 25V |
| C227 | 1-136-433-11 | FILM | 100PF | 5% 630V | C707 | 1-126-963-11 | ELECT | 4.7uF | 20% 50V |
| C228 | 1-137-434-11 | FILM | 0.0018uF | 5% 50V | C712 | 1-124-903-11 | ELECT | 1uF | 20% 50V |
| C230 | 1-137-366-11 | FILM | 0.0022uF | 5% 50V | C713 | 1-126-926-11 | ELECT | 1000uF | 20% 10V |
| C231 | 1-124-907-11 | ELECT | 10uF | 20% 50V | C714 | 1-124-122-11 | ELECT | 100uF | 20% 50V |
| C232 | 1-136-165-00 | FILM | 0.1uF | 5% 50V | C715 | 1-126-967-11 | ELECT | 47uF | 20% 35V |
| C233 | 1-136-163-00 | FILM | 0.068uF | 5% 50V | C716 | 1-164-159-11 | CERAMIC | 0.1uF | 50V |
| C236 | 1-124-907-11 | ELECT | 10uF | 20% 50V | C801 | 1-124-443-00 | ELECT | 100uF | 20% 10V |
| C237 | 1-124-916-11 | ELECT | 22uF | 20% 63V | C802 | 1-104-666-11 | ELECT | 220uF | 20% 10V |
| C238 | 1-124-907-11 | ELECT | 10uF | 20% 50V | C805 | 1-164-159-11 | CERAMIC | 0.1uF | 50V |
| C240 | 1-124-916-11 | ELECT | 22uF | 20% 63V | C808 | 1-126-962-11 | ELECT | 3.3uF | 20% 50V |
| C241 | 1-124-907-11 | ELECT | 10uF | 20% 50V | < CONNECTOR > | | | | |
| C301 | 1-124-907-11 | ELECT | 10uF | 20% 50V | * CNP301 | 1-564-337-00 | PIN, CONNECTOR | 3P | |
| C302 | 1-124-907-11 | ELECT | 10uF | 20% 50V | * CNP302 | 1-560-062-00 | PIN, CONNECTOR | 4P | |
| C303 | 1-137-436-11 | FILM | 0.0039uF | 5% 50V | * CNP303 | 1-560-060-00 | PIN, CONNECTOR | 2P | |
| C304 | 1-124-907-11 | ELECT | 10uF | 20% 50V | * CNP304 | 1-560-062-00 | PIN, CONNECTOR | 4P | |
| C305 | 1-136-164-00 | FILM | 0.082uF | 5% 50V | * CNP305 | 1-691-462-11 | PIN, CONNECTOR (PC BOARD) | 6P | |
| C306 | 1-124-903-11 | ELECT | 1uF | 20% 50V | * CNP306 | 1-568-824-11 | SOCKET, CONNECTOR | 5P | |
| C307 | 1-124-443-00 | ELECT | 100uF | 20% 10V | * CNP307 | 1-568-824-11 | SOCKET, CONNECTOR | 5P | |
| C308 | 1-124-443-00 | ELECT | 100uF | 20% 10V | CNP701 | 1-564-510-11 | PLUG, CONNECTOR | 7P | |
| C309 | 1-162-217-31 | CERAMIC | 56PF | 5% 50V | * CNP705 | 1-580-230-31 | PIN, CONNECTOR (PC BOARD) | 2P | |
| C310 | 1-161-494-00 | CERAMIC | 0.022uF | 25V | * CNP801 | 1-568-828-11 | SOCKET, CONNECTOR | 9P | |
| C311 | 1-124-925-11 | ELECT | 2.2uF | 20% 100V | * CNP802 | 1-568-826-11 | SOCKET, CONNECTOR | 7P | |
| C312 | 1-162-217-31 | CERAMIC | 56PF | 5% 50V | CNP803 | 1-770-246-11 | SOCKET, CONNECTOR | 41P | |
| C313 | 1-124-925-11 | ELECT | 2.2uF | 20% 100V | CP101 | 1-695-087-11 | PIN, CONNECTOR (PC BOARD) | 7P | |
| C314 | 1-124-907-11 | ELECT | 10uF | 20% 50V | CP102 | 1-695-087-11 | PIN, CONNECTOR (PC BOARD) | 7P | |
| C315 | 1-124-907-11 | ELECT | 10uF | 20% 50V | CP201 | 1-695-087-11 | PIN, CONNECTOR (PC BOARD) | 7P | |
| C316 | 1-124-902-00 | ELECT | 0.47uF | 20% 50V | | | | | |

MAIN**HEADPHONE****TRANS 1****TRANS 2**

| Ref. No. | Part No. | Description | Remark |
|----------|--------------|------------------------------|--------|
| CP202 | 1-695-087-11 | PIN, CONNECTOR (PC BOARD) 7P | |
| | | < DIODE > | |
| D101 | 8-719-987-63 | DIODE 1N4148M | |
| D102 | 8-719-987-63 | DIODE 1N4148M | |
| D201 | 8-719-987-63 | DIODE 1N4148M | |
| D202 | 8-719-987-63 | DIODE 1N4148M | |
| D301-313 | 8-719-987-63 | DIODE 1N4148M | |
| D701-704 | | | |
| | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D705 | 8-719-933-33 | DIODE HZS6A1L | |
| D706 | 8-719-933-33 | DIODE HZS6A1L | |
| D707 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D708 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D709 | 8-719-987-63 | DIODE 1N4148M | |
| D711 | 8-719-000-78 | DIODE UZL-7L2 | |
| D712 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D713 | 8-719-987-63 | DIODE 1N4148M | |
| D714 | 8-719-000-93 | DIODE UZL-7H1 | |
| D715 | 8-719-987-63 | DIODE 1N4148M | |
| D718 | 8-719-024-99 | DIODE 11ES2-NTA2B | |
| D801 | 8-719-987-63 | DIODE 1N4148M | |
| D802 | 8-719-933-33 | DIODE HZS6A1L | |
| D803 | 8-719-933-33 | DIODE HZS6A1L | |
| D805 | 8-719-987-63 | DIODE 1N4148M | |
| D807 | 8-719-987-63 | DIODE 1N4148M | |
| D808 | 8-719-987-63 | DIODE 1N4148M | |
| D809 | 8-719-987-63 | DIODE 1N4148M | |
| D810 | 8-719-987-63 | DIODE 1N4148M | |
| D814 | 8-719-987-63 | DIODE 1N4148M | |
| D815 | 8-719-987-63 | DIODE 1N4148M | |
| | | < IC > | |
| IC301 | 8-759-111-44 | IC uPC4570C-1 | |
| IC302 | 8-752-066-35 | IC CXA1563S | |
| IC303 | 8-752-060-64 | IC CXA1198AP | |
| IC304 | 8-759-106-56 | IC uPC1297CA | |
| IC305 | 8-759-634-51 | IC M5218AP | |
| IC306 | 8-759-634-51 | IC M5218AP | |
| IC307 | 8-752-066-35 | IC CXA1563S | |
| IC308 | 8-759-634-50 | IC M5218AL | |
| IC309 | 8-759-634-50 | IC M5218AL | |
| IC310 | 8-759-000-49 | IC MC14066BCP | |
| IC311 | 8-759-634-51 | IC M5218AP | |
| IC701 | 8-759-145-58 | IC uPC4558C | |
| IC801 | 8-759-254-85 | IC uPD78042GF-072-3B9 | |
| IC802 | 8-759-803-42 | IC LA6500-FA | |
| IC803 | 8-759-165-82 | IC PST600E-T | |

| Ref. No. | Part No. | Description | Remark |
|----------|--------------|----------------------------|--------|
| | | < JACK > | |
| J301 | 1-565-258-11 | JACK, PIN 4P (LINE IN/OUT) | |
| J302 | 1-568-519-41 | JACK, LARGE TYPE (PHONES) | |
| | | < COIL > | |
| L101 | 1-410-780-11 | INDUCTOR 27mH | |
| L121 | 1-410-778-11 | INDUCTOR 18mH | |
| L201 | 1-410-780-11 | INDUCTOR 27mH | |
| L221 | 1-410-778-11 | INDUCTOR 18mH | |
| | | < FILTER > | |
| LF701 | 1-424-485-11 | FILTER, LINE | |
| LPF101 | 1-235-175-11 | FILTER, LOW PASS | |
| LPF201 | 1-235-175-11 | FILTER, LOW PASS | |
| | | < TRANSISTOR > | |
| Q101 | 8-729-900-74 | TRANSISTOR DTC143TS | |
| Q102 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q103 | 8-729-922-37 | TRANSISTOR 2SD2144S | |
| Q104 | 8-729-922-37 | TRANSISTOR 2SD2144S | |
| Q105 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q201 | 8-729-900-74 | TRANSISTOR DTC143TS | |
| Q202 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q203 | 8-729-922-37 | TRANSISTOR 2SD2144S | |
| Q204 | 8-729-922-37 | TRANSISTOR 2SD2144S | |
| Q205 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q301 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q302 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q303 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q304 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q305 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q306 | 8-729-900-89 | TRANSISTOR DTC144ES | |
| Q307 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q308 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q309 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q310 | 8-729-194-57 | TRANSISTOR 2SC945-P | |
| Q311 | 8-729-194-57 | TRANSISTOR 2SC945-P | |
| Q312 | 8-729-922-37 | TRANSISTOR 2SD2144S | |
| Q313 | 8-729-119-78 | TRANSISTOR 2SC403SP-51 | |
| Q314 | 8-729-119-78 | TRANSISTOR 2SC403SP-51 | |
| Q315 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q316 | 8-729-900-74 | TRANSISTOR DTC143TS | |
| Q701 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q702 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q703 | 8-729-141-83 | TRANSISTOR 2SB1094-LK | |
| Q704 | 8-729-209-15 | TRANSISTOR 2SD2012 | |
| Q705 | 8-729-209-15 | TRANSISTOR 2SD2012 | |
| Q706 | 8-729-119-78 | TRANSISTOR 2SC403SP-51 | |

MAIN

HEADPHONE

TRANS 1

TRANS 2

| Ref. No. | Part No. | Description | Remark |
|--------------|--------------|------------------------|--------|
| Q707 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q708 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q709 | 8-729-140-04 | TRANSISTOR 2SB1116A-L | |
| Q803 | 8-729-801-84 | TRANSISTOR 2SB1013-4 | |
| Q807 | 8-729-142-36 | TRANSISTOR BN1L3Z | |
| Q808 | 8-729-422-57 | TRANSISTOR UN4111 | |
| Q809 | 8-729-422-57 | TRANSISTOR UN4111 | |
| Q810-814 | 8-729-900-89 | TRANSISTOR DTC144ES | |
| < RESISTOR > | | | |
| R101 | 1-249-433-11 | CARBON 22K 5% | 1/4W |
| R102 | 1-249-417-11 | CARBON 1K 5% | 1/4W |
| R103 | 1-249-423-11 | CARBON 3.3K 5% | 1/4W |
| R104 | 1-249-428-11 | CARBON 8.2K 5% | 1/4W |
| R105 | 1-249-441-11 | CARBON 100K 5% | 1/4W |
| R107 | 1-249-421-11 | CARBON 2.2K 5% | 1/4W |
| R108 | 1-247-860-11 | CARBON 16K 5% | 1/4W |
| R109 | 1-249-421-11 | CARBON 2.2K 5% | 1/4W |
| R110 | 1-249-417-11 | CARBON 1K 5% | 1/4W |
| R112 | 1-249-423-11 | CARBON 3.3K 5% | 1/4W |
| R113 | 1-249-424-11 | CARBON 3.9K 5% | 1/4W |
| R114 | 1-249-429-11 | CARBON 10K 5% | 1/4W |
| R115 | 1-249-421-11 | CARBON 2.2K 5% | 1/4W |
| R116 | 1-249-425-11 | CARBON 4.7K 5% | 1/4W |
| R117 | 1-249-441-11 | CARBON 100K 5% | 1/4W |
| R118 | 1-249-403-11 | CARBON 68 5% | 1/4W |
| R119 | 1-247-882-11 | CARBON 130K 5% | 1/4W |
| R120 | 1-249-426-11 | CARBON 5.6K 5% | 1/4W |
| R121 | 1-249-421-11 | CARBON 2.2K 5% | 1/4W |
| R122 | 1-249-420-11 | CARBON 1.8K 5% | 1/4W |
| R123 | 1-247-838-00 | CARBON 2K 5% | 1/4W |
| R124 | 1-249-441-11 | CARBON 100K 5% | 1/4W |
| R125 | 1-249-421-11 | CARBON 2.2K 5% | 1/4W |
| R126 | 1-249-425-11 | CARBON 4.7K 5% | 1/4W |
| R127 | 1-249-435-11 | CARBON 33K 5% | 1/4W |
| △R128 | 1-219-153-11 | FUSIBLE 10 5% | 1/4W F |
| R129 | 1-247-883-00 | CARBON 150K 5% | 1/4W |
| R130 | 1-249-434-11 | CARBON 27K 5% | 1/4W |
| R131 | 1-247-874-11 | CARBON 62K 5% | 1/4W |
| R133 | 1-249-410-11 | CARBON 270 5% | 1/4W |
| R137 | 1-249-441-11 | CARBON 100K 5% | 1/4W |
| R138 | 1-249-441-11 | CARBON 100K 5% | 1/4W |
| R139 | 1-247-864-11 | CARBON 24K 5% | 1/4W |
| R140 | 1-249-429-11 | CARBON 10K 5% | 1/4W |
| R141 | 1-249-419-11 | CARBON 1.5K 5% | 1/4W |
| R142 | 1-249-421-11 | CARBON 2.2K 5% | 1/4W |
| R143 | 1-247-844-11 | CARBON 3.6K 5% | 1/4W |
| R144 | 1-249-409-11 | CARBON 220 5% | 1/4W |

| Ref. No. | Part No. | Description | Remark |
|----------|--------------|----------------|--------|
| R145 | 1-249-426-11 | CARBON 5.6K 5% | 1/4W |
| R152 | 1-247-887-00 | CARBON 220K 5% | 1/4W |
| R201 | 1-249-433-11 | CARBON 22K 5% | 1/4W |
| R202 | 1-249-417-11 | CARBON 1K 5% | 1/4W |
| R203 | 1-249-423-11 | CARBON 3.3K 5% | 1/4W |
| R204 | 1-249-428-11 | CARBON 8.2K 5% | 1/4W |
| R205 | 1-249-441-11 | CARBON 100K 5% | 1/4W |
| R207 | 1-249-421-11 | CARBON 2.2K 5% | 1/4W |
| R208 | 1-247-860-11 | CARBON 16K 5% | 1/4W |
| R209 | 1-249-421-11 | CARBON 2.2K 5% | 1/4W |
| R210 | 1-249-417-11 | CARBON 1K 5% | 1/4W |
| R212 | 1-249-423-11 | CARBON 3.3K 5% | 1/4W |
| R213 | 1-249-424-11 | CARBON 3.9K 5% | 1/4W |
| R214 | 1-249-429-11 | CARBON 10K 5% | 1/4W |
| R215 | 1-249-421-11 | CARBON 2.2K 5% | 1/4W |
| R216 | 1-249-425-11 | CARBON 4.7K 5% | 1/4W |
| R217 | 1-249-441-11 | CARBON 100K 5% | 1/4W |
| R218 | 1-249-403-11 | CARBON 68 5% | 1/4W |
| R219 | 1-247-882-11 | CARBON 130K 5% | 1/4W |
| R220 | 1-249-426-11 | CARBON 5.6K 5% | 1/4W |
| R221 | 1-249-421-11 | CARBON 2.2K 5% | 1/4W |
| R222 | 1-249-420-11 | CARBON 1.8K 5% | 1/4W |
| R223 | 1-247-838-00 | CARBON 2K 5% | 1/4W |
| R224 | 1-249-441-11 | CARBON 100K 5% | 1/4W |
| R225 | 1-249-421-11 | CARBON 2.2K 5% | 1/4W |
| R226 | 1-249-425-11 | CARBON 4.7K 5% | 1/4W |
| R227 | 1-249-435-11 | CARBON 33K 5% | 1/4W |
| △R228 | 1-219-153-11 | FUSIBLE 10 5% | 1/4W F |
| R229 | 1-247-883-00 | CARBON 150K 5% | 1/4W |
| R230 | 1-249-434-11 | CARBON 27K 5% | 1/4W |
| R231 | 1-247-874-11 | CARBON 62K 5% | 1/4W |
| R233 | 1-249-410-11 | CARBON 270 5% | 1/4W |
| R237 | 1-249-441-11 | CARBON 100K 5% | 1/4W |
| R238 | 1-249-441-11 | CARBON 100K 5% | 1/4W |
| R239 | 1-247-864-11 | CARBON 24K 5% | 1/4W |
| R240 | 1-249-429-11 | CARBON 10K 5% | 1/4W |
| R241 | 1-249-419-11 | CARBON 1.5K 5% | 1/4W |
| R242 | 1-249-421-11 | CARBON 2.2K 5% | 1/4W |
| R243 | 1-247-844-11 | CARBON 3.6K 5% | 1/4W |
| R244 | 1-249-409-11 | CARBON 220 5% | 1/4W |
| R245 | 1-249-426-11 | CARBON 5.6K 5% | 1/4W |
| R252 | 1-247-887-00 | CARBON 220K 5% | 1/4W |
| R302 | 1-247-848-11 | CARBON 5.1K 5% | 1/4W |
| R303 | 1-249-421-11 | CARBON 2.2K 5% | 1/4W |
| R304 | 1-249-421-11 | CARBON 2.2K 5% | 1/4W |
| R305 | 1-215-452-00 | METAL 20K 1% | 1/4W |
| R306 | 1-249-436-11 | CARBON 39K 5% | 1/4W |
| R307 | 1-249-433-11 | CARBON 22K 5% | 1/4W |
| R308 | 1-249-441-11 | CARBON 100K 5% | 1/4W |

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

MAIN

HEADPHONE

TRANS 1

TRANS 2

| Ref. No. | Part No. | Description | Remark |
|----------|--------------|-------------|---------------|
| R309 | 1-247-864-11 | CARBON | 24K 5% 1/4W |
| R310 | 1-249-441-11 | CARBON | 100K 5% 1/4W |
| R311 | 1-249-441-11 | CARBON | 100K 5% 1/4W |
| R312 | 1-249-433-11 | CARBON | 22K 5% 1/4W |
| R313 | 1-247-878-00 | CARBON | 91K 5% 1/4W |
| R314 | 1-249-439-11 | CARBON | 68K 5% 1/4W |
| R315 | 1-247-870-11 | CARBON | 43K 5% 1/4W |
| R316 | 1-249-435-11 | CARBON | 33K 5% 1/4W |
| R317 | 1-247-876-11 | CARBON | 75K 5% 1/4W |
| R318 | 1-247-887-00 | CARBON | 220K 5% 1/4W |
| R319 | 1-247-878-00 | CARBON | 91K 5% 1/4W |
| R320 | 1-247-874-11 | CARBON | 62K 5% 1/4W |
| R321 | 1-247-878-00 | CARBON | 91K 5% 1/4W |
| R322 | 1-249-437-11 | CARBON | 47K 5% 1/4W |
| R323 | 1-249-439-11 | CARBON | 68K 5% 1/4W |
| R324 | 1-247-886-11 | CARBON | 200K 5% 1/4W |
| R325 | 1-247-874-11 | CARBON | 62K 5% 1/4W |
| R326 | 1-247-874-11 | CARBON | 62K 5% 1/4W |
| R327 | 1-249-435-11 | CARBON | 33K 5% 1/4W |
| R328 | 1-249-438-11 | CARBON | 56K 5% 1/4W |
| R329 | 1-249-440-11 | CARBON | 82K 5% 1/4W |
| R330 | 1-247-836-11 | CARBON | 1. 6K 5% 1/4W |
| R331 | 1-249-429-11 | CARBON | 10K 5% 1/4W |
| R332 | 1-249-422-11 | CARBON | 2. 7K 5% 1/4W |
| R333 | 1-249-417-11 | CARBON | 1K 5% 1/4W |
| R334 | 1-249-417-11 | CARBON | 1K 5% 1/4W |
| R335 | 1-247-822-11 | CARBON | 430 5% 1/4W |
| R336 | 1-249-417-11 | CARBON | 1K 5% 1/4W |
| R337 | 1-249-429-11 | CARBON | 10K 5% 1/4W |
| R338 | 1-249-421-11 | CARBON | 2. 2K 5% 1/4W |
| R339 | 1-249-440-11 | CARBON | 82K 5% 1/4W |
| R340 | 1-249-440-11 | CARBON | 82K 5% 1/4W |
| R341 | 1-249-390-11 | CARBON | 5. 6 5% 1/4W |
| R342 | 1-249-390-11 | CARBON | 5. 6 5% 1/4W |
| R343 | 1-249-437-11 | CARBON | 47K 5% 1/4W |
| R344 | 1-249-429-11 | CARBON | 10K 5% 1/4W |
| R345 | 1-249-441-11 | CARBON | 100K 5% 1/4W |
| R346 | 1-249-441-11 | CARBON | 100K 5% 1/4W |
| R347 | 1-249-429-11 | CARBON | 10K 5% 1/4W |
| R348 | 1-249-428-11 | CARBON | 8. 2K 5% 1/4W |
| R349 | 1-249-441-11 | CARBON | 100K 5% 1/4W |
| R350 | 1-249-441-11 | CARBON | 100K 5% 1/4W |
| R351 | 1-249-423-11 | CARBON | 3. 3K 5% 1/4W |
| R352 | 1-249-429-11 | CARBON | 10K 5% 1/4W |
| R353 | 1-249-429-11 | CARBON | 10K 5% 1/4W |
| R354 | 1-249-417-11 | CARBON | 1K 5% 1/4W |
| R355 | 1-249-430-11 | CARBON | 12K 5% 1/4W |
| R356 | 1-249-435-11 | CARBON | 33K 5% 1/4W |
| R357 | 1-247-848-11 | CARBON | 5. 1K 5% 1/4W |

| Ref. No. | Part No. | Description | Remark |
|----------|--------------|-------------|------------------|
| R358 | 1-249-437-11 | CARBON | 47K 5% 1/4W |
| R359 | 1-249-434-11 | CARBON | 27K 5% 1/4W |
| R360 | 1-249-437-11 | CARBON | 47K 5% 1/4W |
| R361 | 1-249-429-11 | CARBON | 10K 5% 1/4W |
| R363 | 1-215-452-00 | METAL | 20K 1% 1/4W |
| R365 | 1-249-433-11 | CARBON | 22K 5% 1/4W |
| R366 | 1-247-862-11 | CARBON | 20K 5% 1/4W |
| R367 | 1-249-429-11 | CARBON | 10K 5% 1/4W |
| R368 | 1-249-429-11 | CARBON | 10K 5% 1/4W |
| R701 | 1-249-433-11 | CARBON | 22K 5% 1/4W |
| R702 | 1-249-425-11 | CARBON | 4. 7K 5% 1/4W |
| R703 | 1-249-420-11 | CARBON | 1. 8K 5% 1/4W |
| R704 | 1-249-421-11 | CARBON | 2. 2K 5% 1/4W |
| R705 | 1-249-427-11 | CARBON | 6. 8K 5% 1/4W |
| R706 | 1-249-419-11 | CARBON | 1. 5K 5% 1/4W |
| R707 | 1-249-429-11 | CARBON | 10K 5% 1/4W |
| R708 | 1-249-419-11 | CARBON | 1. 5K 5% 1/4W |
| R709 | 1-249-425-11 | CARBON | 4. 7K 5% 1/4W |
| R711 | 1-249-417-11 | CARBON | 1K 5% 1/4W |
| R712 | 1-249-427-11 | CARBON | 6. 8K 5% 1/4W |
| R713 | 1-249-427-11 | CARBON | 6. 8K 5% 1/4W |
| R714 | 1-249-419-11 | CARBON | 1. 5K 5% 1/4W |
| R715 | 1-249-425-11 | CARBON | 4. 7K 5% 1/4W |
| R716 | 1-249-429-11 | CARBON | 10K 5% 1/4W |
| R718 | 1-249-433-11 | CARBON | 22K 5% 1/4W |
| R719 | 1-249-429-11 | CARBON | 10K 5% 1/4W |
| R720 | 1-249-423-11 | CARBON | 3. 3K 5% 1/4W |
| R721 | 1-249-437-11 | CARBON | 47K 5% 1/4W |
| △R730 | 1-219-137-11 | FUSIBLE | 0. 33 10% 1/4W F |
| △R731 | 1-219-136-11 | FUSIBLE | 0. 22 10% 1/4W F |
| R801 | 1-249-435-11 | CARBON | 33K 5% 1/4W |
| R802 | 1-249-429-11 | CARBON | 10K 5% 1/4W |
| R803 | 1-247-862-11 | CARBON | 20K 5% 1/4W |
| R805 | 1-249-417-11 | CARBON | 1K 5% 1/4W |
| R806 | 1-249-417-11 | CARBON | 1K 5% 1/4W |
| R807 | 1-249-430-11 | CARBON | 12K 5% 1/4W |
| R808 | 1-249-433-11 | CARBON | 22K 5% 1/4W |
| R809 | 1-249-433-11 | CARBON | 22K 5% 1/4W |
| R811 | 1-249-425-11 | CARBON | 4. 7K 5% 1/4W |
| R812 | 1-249-425-11 | CARBON | 4. 7K 5% 1/4W |
| R813 | 1-247-866-11 | CARBON | 30K 5% 1/4W |
| R814 | 1-247-866-11 | CARBON | 30K 5% 1/4W |
| R815 | 1-249-437-11 | CARBON | 47K 5% 1/4W |
| R817 | 1-249-441-11 | CARBON | 100K 5% 1/4W |
| R818 | 1-249-417-11 | CARBON | 1K 5% 1/4W |
| R821 | 1-249-433-11 | CARBON | 22K 5% 1/4W |
| R822 | 1-249-393-11 | CARBON | 10 5% 1/4W |
| R823 | 1-249-437-11 | CARBON | 47K 5% 1/4W |
| R824 | 1-249-437-11 | CARBON | 47K 5% 1/4W |

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

MAIN HEADPHONE TRANS 1 TRANS 2 PANEL FL VOL

| Ref. No. | Part No. | Description | Remark |
|-----------------------|-----------------------|-------------------------------------|--------|
| R825 | 1-249-429-11 | CARBON 10K 5% | 1/4W |
| R826 | 1-249-429-11 | CARBON 10K 5% | 1/4W |
| R827 | 1-247-807-31 | CARBON 100 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 |
| < VARIABLE RESISTOR > | | | |
| RV101 | 1-241-765-11 | RES, ADJ, CARBON 22K (REC LEVEL) | |
| RV102 | 1-238-019-11 | RES, ADJ, CARBON 47K (REC EQ (IV)) | |
| RV103 | 1-241-765-11 | RES, ADJ, CARBON 22K (REC BIAS) | |
| RV121 | 1-241-763-11 | RES, ADJ, CARBON 4.7K (PB LEVEL) | |
| RV201 | 1-241-765-11 | RES, ADJ, CARBON 22K (REC LEVEL) | |
| RV202 | 1-238-019-11 | RES, ADJ, CARBON 47K (REC EQ (IV)) | |
| RV203 | 1-241-765-11 | RES, ADJ, CARBON 22K (REC BIAS) | |
| RV221 | 1-241-763-11 | RES, ADJ, CARBON 4.7K (PB LEVEL) | |
| RV306 | 1-223-387-21 | RES, ADJ, CARBON 330K (REC EQ (IV)) | |
| < TRANSFORMER > | | | |
| T101 | 1-433-344-11 | TRANSFORMER, BIAS OSCILLATION | |
| T201 | 1-433-344-11 | TRANSFORMER, BIAS OSCILLATION | |
| T301 | 1-423-614-11 | TRANSFORMER, BIAS OSCILLATION | |
| < TEST PIN > | | | |
| * TP301 | 1-564-506-11 | PLUG, CONNECTOR 3P | |
| * TP801 | 1-560-060-00 | PIN, CONNECTOR 2P | |
| < VIBRATOR > | | | |
| X801 | 1-577-358-21 | VIBRATOR, CERAMIC (4MHz) | |
| ***** | | | |
| * A-2007-361-A | PANEL BOARD, COMPLETE | | |
| | ***** | | |
| | FL BOARD | | |
| | ***** | | |
| | VOL BOARD | | |
| | ***** | | |
| < CONNECTOR > | | | |
| CNP903 | 1-770-246-11 | SOCKET, CONNECTOR 41P | |
| * CNP906 | 1-568-824-11 | SOCKET, CONNECTOR 5P | |
| * CNP907 | 1-568-824-11 | SOCKET, CONNECTOR 5P | |
| < DIODE > | | | |
| D901 | 8-719-987-63 | DIODE 1N4148M | |
| D902 | 8-719-987-63 | DIODE 1N4148M | |
| D903 | 8-719-987-63 | DIODE 1N4148M | |

| Ref. No. | Part No. | Description | Remark |
|-----------------------|--------------|--------------------------------------|--------|
| < IC > | | | |
| IC901 | 8-741-810-59 | IC SBX1810-59 | |
| < RESISTOR > | | | |
| R153 | 1-249-425-11 | CARBON 4.7K 5% | 1/4W |
| R253 | 1-249-425-11 | CARBON 4.7K 5% | 1/4W |
| R362 | 1-249-429-11 | CARBON 10K 5% | 1/4W |
| R901 | 1-247-838-00 | CARBON 2K 5% | 1/4W |
| R902 | 1-249-422-11 | CARBON 2.7K 5% | 1/4W |
| R903 | 1-247-848-11 | CARBON 5.1K 5% | 1/4W |
| R904 | 1-249-430-11 | CARBON 12K 5% | 1/4W |
| R905 | 1-247-866-11 | CARBON 30K 5% | 1/4W |
| R906 | 1-249-422-11 | CARBON 2.7K 5% | 1/4W |
| R907 | 1-249-424-11 | CARBON 3.9K 5% | 1/4W |
| R908 | 1-249-428-11 | CARBON 8.2K 5% | 1/4W |
| R909 | 1-249-434-11 | CARBON 27K 5% | 1/4W |
| R910 | 1-247-838-00 | CARBON 2K 5% | 1/4W |
| R911 | 1-249-422-11 | CARBON 2.7K 5% | 1/4W |
| R912 | 1-247-848-11 | CARBON 5.1K 5% | 1/4W |
| R913 | 1-249-430-11 | CARBON 12K 5% | 1/4W |
| R914 | 1-247-866-11 | CARBON 30K 5% | 1/4W |
| R915 | 1-249-441-11 | CARBON 100K 5% | 1/4W |
| < VARIABLE RESISTOR > | | | |
| RV301 | 1-241-820-11 | RES, VAR, CARBON 50K/50K (REC LEVEL) | |
| RV302 | 1-241-897-11 | RES, VAR, CARBON 50K/50K (BALANCE) | |
| RV303 | 1-241-896-11 | RES, VAR, CARBON 10K (BIAS) | |
| RV304 | 1-223-366-11 | RES, VAR, CARBON 5K/5K (REC LEVEL) | |
| < SWITCH > | | | |
| S901 | 1-554-303-21 | SWITCH, TACTILE (▷) | |
| S902 | 1-554-303-21 | SWITCH, TACTILE (▬) | |
| S903 | 1-554-303-21 | SWITCH, TACTILE (RESET) | |
| S904 | 1-554-303-21 | SWITCH, TACTILE (MEMORY) | |
| S905 | 1-554-303-21 | SWITCH, TACTILE (MONITOR) | |
| S906 | 1-554-303-21 | SWITCH, TACTILE (■) | |
| S907 | 1-554-303-21 | SWITCH, TACTILE (◀◀) | |
| S908 | 1-554-303-21 | SWITCH, TACTILE (▶▶) | |
| S909 | 1-554-303-21 | SWITCH, TACTILE (●) | |
| S910 | 1-554-303-21 | SWITCH, TACTILE (○) | |
| S911 | 1-554-303-21 | SWITCH, TACTILE (CALIBRATION) | |
| S921 | 1-692-409-11 | SWITCH, PUSH (1 KEY) (POWER) | |
| S922 | 1-554-118-00 | SWITCH, PUSH (1 KEY) (MPX FILTER) | |
| S923 | 1-692-410-11 | SWITCH, ROTARY (DOLBY NR) | |
| ***** | | | |

SW-A

| Ref. No. | Part No. | Description | Remark |
|------------------------|--------------|---------------------------------------|--------|
| * | 1-634-841-14 | SW-A BOARD ***** < CONNECTOR > | |
| * CNP81 | 1-568-852-11 | SOCKET, CONNECTOR 9P < IC > | |
| IC81 | 8-749-924-10 | IC NJL5165K-B(H1) | |
| IC82 | 8-749-924-10 | IC NJL5165K-B(H1) < RESISTOR > | |
| R81 | 1-249-414-11 | CARBON 560 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 < SWITCH > | |
| S81 | 1-571-958-11 | SWITCH, PUSH (1 KEY) (STOP) | |
| S82 | 1-571-281-21 | SWITCH, LEAF (70u) | |
| S83 | 1-571-281-21 | SWITCH, LEAF (METAL) | |
| S84 | 1-571-281-21 | SWITCH, LEAF (REC) | |
| S86 | 1-571-281-21 | SWITCH, LEAF (HALF) | |
| ***** | | | |
| MISCELLANEOUS ***** | | | |
| △14 | 1-558-945-21 | CORD, POWER (POLAR. SPT-1) (US) | |
| △14 | 1-575-651-21 | CORD, POWER (AEP, G) | |
| △14 | 1-696-027-11 | CORD, POWER (E) | |
| △14 | 1-696-586-11 | CORD, POWER (UK) | |
| △14 | 1-696-845-11 | CORD, POWER (AUS) | |
| △16 | 1-569-007-11 | ADAPTER, CONVERSION 2P (E) | |
| 66 | 1-769-406-11 | WIRE (FLAT TYPE) (41 CORE) | |
| 70 | 1-751-732-11 | WIRE (FLAT TYPE) (9 CORE) | |
| 71 | 1-751-733-11 | WIRE (FLAT TYPE) (7 CORE) | |
| 76 | 1-769-431-11 | WIRE (FLAT TYPE) (5 CORE) | |
| 78 | 1-751-734-11 | WIRE (FLAT TYPE) (5 CORE) | |
| 120 | 1-638-983-11 | PC BOARD, MOTOR FLEXIBLE | |
| △F701 | 1-532-285-00 | FUSE, TIME-LAG (TC-K561S) | |
| △F701 | 1-532-741-11 | FUSE, GLASS TUBE (TC-KA1ES) | |
| △F702 | 1-532-285-00 | FUSE, TIME-LAG (TC-K561S) | |
| △F702 | 1-532-741-11 | FUSE, GLASS TUBE (TC-KA1ES) | |
| HE101 | 1-543-673-11 | HEAD, MAGNETIC (ERASE) | |
| HRP101 | 1-543-733-11 | HEAD, MAGNETIC (RECORD/PLAYBACK) | |
| M1 | X-3363-501-2 | MOTOR ASSY (REEL) | |
| M2 | X-3368-855-1 | MOTOR ASSY (CAPSTAN) | |
| △S701 | 1-692-155-11 | SELECTOR, POWER VOLTAGE (VOLTAGE) (E) | |
| △T701 | 1-426-726-21 | TRANSFORMER, POWER (US) | |

| Ref. No. | Part No. | Description | Remark |
|------------------------------------------|--------------|------------------------------------------------------------------|--------|
| △T701 | 1-426-727-21 | TRANSFORMER, POWER (AEP, UK, G, AUS) | |
| △T701 | 1-426-728-21 | TRANSFORMER, POWER (E) | |
| VFD901 | 1-517-163-11 | INDICATOR TUBE, FLUORESCENT | |
| ***** | | | |
| ACCESSORIES & PACKING MATERIALS ***** | | | |
| | 1-551-734-11 | CORD, CONNECTION | |
| | 3-798-436-11 | MANUAL, INSTRUCTION (AEP) (ENGLISH/FRENCH/SPANISH/PORTUGUESE) | |
| | 3-798-436-21 | MANUAL, INSTRUCTION (UK, AUS, US) (ENGLISH) | |
| | 3-798-436-41 | MANUAL, INSTRUCTION (AEP) (GERMAN/DUTCH/SWEDISH/ITALIAN) | |
| | 3-798-436-51 | MANUAL, INSTRUCTION (G) (GERMAN) | |
| | 3-798-436-61 | MANUAL, INSTRUCTION (E) (ENGLISH/FRENCH/SPANISH/CHINESE) | |
| * | 3-907-887-01 | CUSHION | |
| * | 3-923-964-01 | INDIVIDUAL CARTON (E, AUS) | |
| * | 3-923-964-11 | INDIVIDUAL CARTON (AEP, UK, G) | |
| * | 3-923-964-21 | INDIVIDUAL CARTON (US) | |
| ***** | | | |
| ***** HARDWARE LIST ***** | | | |
| #1 | 7-682-548-09 | SCREW +BVTT 3×8 (S) | |
| #2 | 7-682-548-04 | SCREW +BVTT 3×8 (S) | |
| #3 | 7-621-773-95 | SCREW +BVTT 2.6×6 (S) | |
| #4 | 7-685-134-19 | SCREW +PTPWH (2.6×8) | |
| #5 | 7-685-534-19 | SCREW +BTP 2.6×8 TYPE2 N-S (E) | |
| #6 | 7-621-772-10 | SCREW +B 2×4 | |
| #7 | 7-627-556-08 | SCREW +P 2.6×2.8 | |
| #8 | 7-621-775-00 | SCREW +B 2.6×3 | |

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