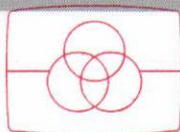


TC-W21/W27/W250

SERVICE MANUAL



Free service manuals
Gratis schema's

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TC-W21/W27/W250:
US Model

TC-W250:
Canadian Model
AEP Model
UK Model
E Model



Photo: TC-W250 (US Model)

SPECIFICATIONS

Recording system

4-track 2-channel stereo

Fast-forward and rewind time

Approx. 120 sec. (with C-60 cassette)

Bias frequency

105 kHz

Signal-to-noise ratio (NAB, at peak level)

Cassette \ Dolby NR switch	OFF	B-TYPE ON	TC-W27/W250
			C-TYPE ON
TYPE IV (Sony METAL-ES)	58 dB	65 dB	71 dB
TYPE II (Sony UX-S)	56 dB	63 dB	69 dB
TYPE I (Sony HF-S)	54 dB	61 dB	67 dB

Total harmonic distortion

1.0% (with Sony METAL-ES cassette)

Frequency response (DOLBY NR OFF)

TYPE IV cassette (Sony METAL-ES)	30 - 15,000 Hz (± 3 dB DIN) 30 - 13,000 Hz (± 3 dB, 0VU recording)
TYPE II cassette (Sony UX-S)	30 - 14,000 Hz (± 3 dB DIN)
TYPE I cassette (Sony HF-S)	30 - 13,000 Hz (± 3 dB)

Wow and flutter

0.12% WRMS (NAB), $\pm 0.2\%$ (DIN)

Inputs

Connector	Type	Sensitivity	Impedance
LINE IN	phono	77.5 mV (-20 dB)	10 kilohms

Model Name Using Similar Mechanism		DXA-D7
Tape Transport Mechanism Type	DECK A	TCM-YM47CW-23
	DECK B	TCM-YM47CW-24

Outputs

Connector	Type	Rated output level	Load impedance
LINE OUT	phono	0.44 V (-5 dB) at load impedance 47 kilohms	over 50 kilohms
HEAD- PHONES	stereo phone	0.3 mW at load impedance 32 ohms	—

— Continued on page 2 —

SAFETY-RELATED COMPONENT WARNING!!

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

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

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



STEREO CASSETTE DECK
SONY[®]

TC

General

Power requirements

TC-W21 W27 W250	US model	120 V AC, 60 Hz
TC-W250	Canada model	120 V AC, 60 Hz
	European model	220 V AC (240 V AC adjustable by authorized Sony personnel), 50 Hz
	United Kingdom model	240 V AC (220 V AC adjustable by authorized Sony personnel), 50 Hz
	The model for other countries	120, 220, or 240 V AC adjustable, 50/60 Hz

Power consumption

13 watts

Dimensions

Approx. 430 × 135 × 250 mm (w/h/d)
(17 × 5³/₈ × 9⁷/₈ inches)

including projecting parts and controls

Weight

Approx. 3.5 kg (7 lbs 12 oz)

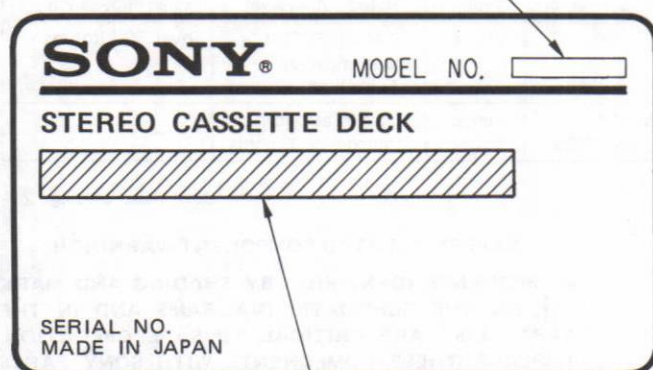
Supplied accessories

Connecting cord (2)

MODEL IDENTIFICATION

— Specification Label —

TC-W21, TC-W27, TC-W250



US, Canadian model: AC: 120 V ~ 60 Hz 13 W

AEP model: AC: 220 V ~ 50 Hz 13 W

E model: AC: 120, 220, 240 V ~ 50/60 Hz 13 W

UK model: AC: 240 V ~ 50 Hz 13 W

FEATURES

Double deck

The unit consists of two decks: deck A for playback and deck B for recording/playback.

Two-speed dubbing

Tape dubbing can be performed either at normal speed or at high (double) speed.

Dolby NR* switches

The unit is equipped with switches for the Dolby B-type NR system and for the C-type NR system (TC-W27/W250) which reduces tape noise twice as effectively as the B-type system.

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

OPERATING VOLTAGE

Before connecting the unit to the power source, check that the operating voltage of your unit is the same as the local power line voltage.

The US and Canada model operates on 120 V AC.

The European model operates on 220 V AC (or 240 V AC adjustable by authorized Sony personnel).

The United Kingdom model operates on 240 V AC (or 220 V AC adjustable by authorized Sony personnel).

The model for other countries operates on 120, 220 or 240 V AC. The voltage selector is located on the rear panel. If the selector must be reset, **disconnect the AC power cord** and set the selector to the appropriate voltage.

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SAFETY CHECK-OUT (US Model)

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

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

LEAKAGE TEST

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

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

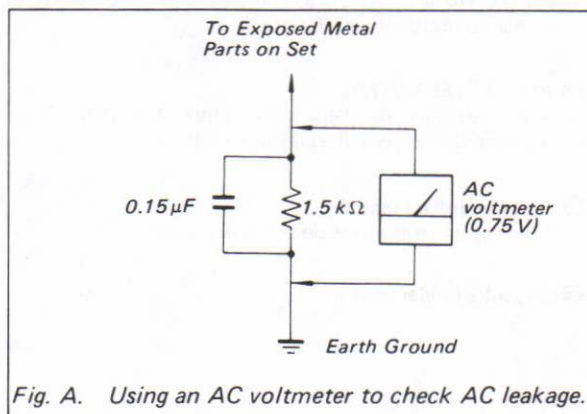
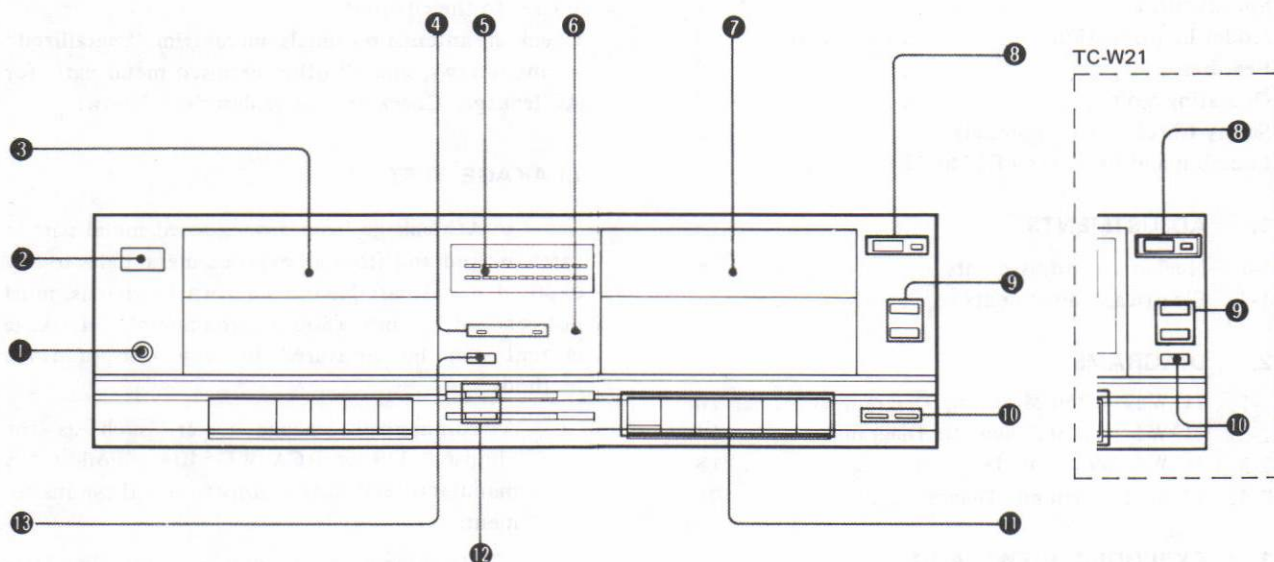


Fig. A. Using an AC voltmeter to check AC leakage.

LOCATION AND FUNCTION OF CONTROL



1 HEADPHONES jack (stereo phone jack)

2 POWER switch

3 Cassette holder (deck A)

4 SPEED indicators
HIGH or NORMAL lights up according to the DUBBING SPEED switch setting during the tape dubbing.

5 PEAK LEVEL METERS
Show the peak input level of each channel during recording, and recorded levels in the playback mode.

6 REC (record) indicator
Lights up when ● on the deck B is depressed.

7 Cassette holder (deck B)

8 COUNTER (tape counter) and RESET button for deck B
Use the tape counter as a reference when searching for recorded materials. To reset to zero, press the RESET button.

9 TAPE (DECK-B) select switches
Select the tape type used on the deck B.

10 DOLBY NR (Noise Reduction) switches
Select Dolby B or C (TC-W27/W250) to record or play back with the Dolby NR system

11 Tape operation buttons
● REC (record) button (only for deck B)
▷ PLAY button
◀◀ REW (rewind) button
▶▶ FF (fast-forward) button
■▲ STOP/EJECT button
|| PAUSE button

12 REC LEVEL (recording level) controls.

13 DUBBING SPEED switch
Depress for high speed dubbing (▲ HIGH). Press again to return to the normal dubbing speed (◻ NORMAL).

TC-W21/W27/W250

TC-W21/W27/W250

SECTION 1
ADJUSTMENTS1-1. MECHANICAL ADJUSTMENTS
PRECAUTION

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

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

Torque Measurement

Torque	Torquemeter	Meter reading
FWD	CQ-102C	30 – 70 g·cm (0.42 – 0.97 oz·inch)
FWD Back tension	CQ-102C	1.5 – 5.5 g·cm (0.020 – 0.076 oz·inch)
FF. REW	CQ-201B	63 g·cm or more (0.87 oz·inch)

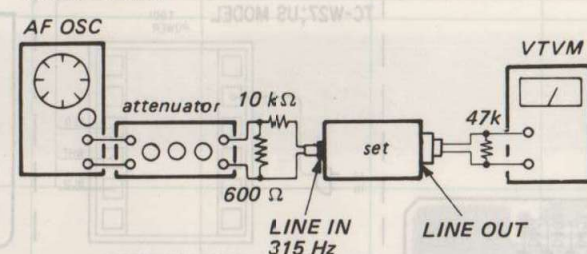
1-2. ELECTRICAL ADJUSTMENTS

- Demagnetize the record/playback and erase head with a head demagnetizer.
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.
- The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
- The adjustments should be performed for both L-CH and R-CH.

- Switches and controls should be set as follows unless otherwise specified.

DOLBY NR switch: OFF
TAPE select switch: NORMAL
(DECK-B)

Mode: record



Standard Input Level

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

Standard Output Level

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

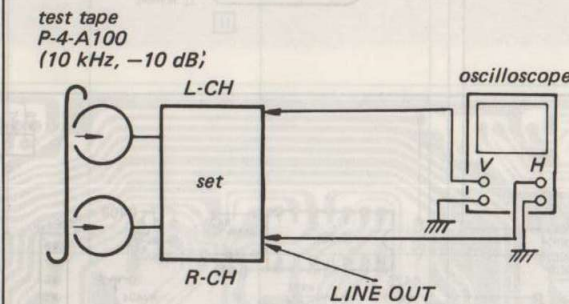
Record/Playback Head Azimuth Adjustment

DECK A

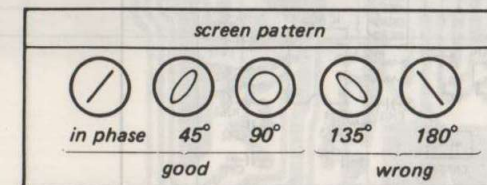
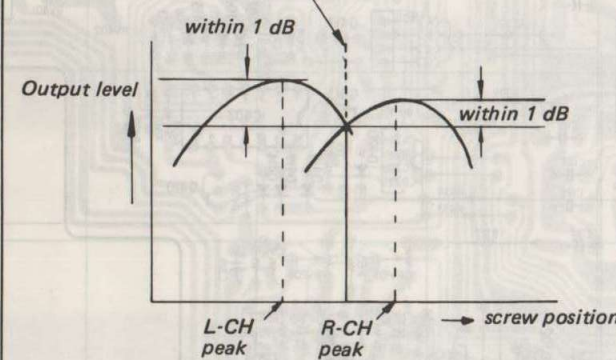
DECK B

Procedure:

- Mode: FWD playback

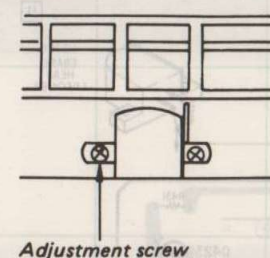


- Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1 dB of peak.



- After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location:



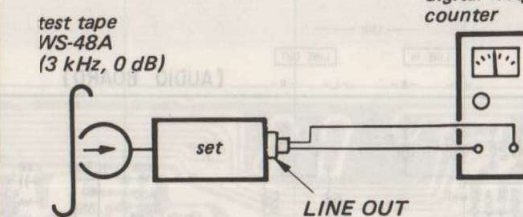
Tape Speed Adjustment

DECK A

DECK B

Procedure:

- Mode: FWD playback



- Connect pin to with the lead wire. (CN408)

Specification: high speed

Speed checker	Digital frequency counter
–0.5 – +0.5%	5,950 Hz – 6,010 Hz

Frequency difference between the beginning and the end of the tape should be within 1.5% (90 Hz).

Adjustment location:

DECK-A side RV401
DECK-B side RV403

- Remove the wire in step 1. (CN408)

Specification: normal speed

Speed checker	Digital frequency counter
–0.3 – +0.3%	2,970 Hz – 3,030 Hz

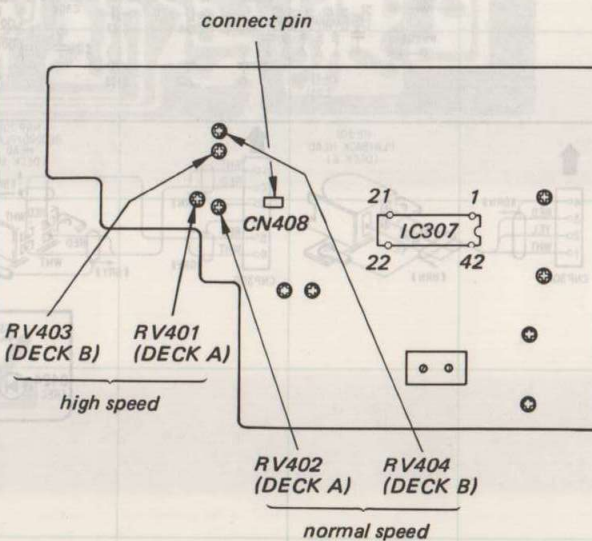
Frequency difference between the beginning and the end of the tape should be within 1.5% (45 Hz).

Adjustment location:

DECK-A side RV402
DECK-B side RV404

- If the specifications are not satisfied, repeat steps 1 and 2.

Adjustment Location: audio board



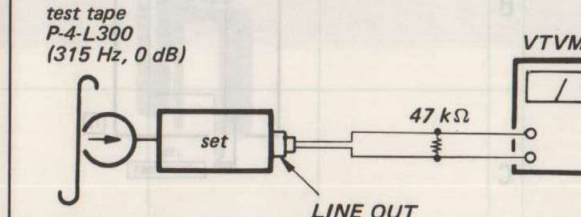
Playback Level Adjustment

DECK A

DECK B

Procedure:

- Mode: FWD playback



Adjust:

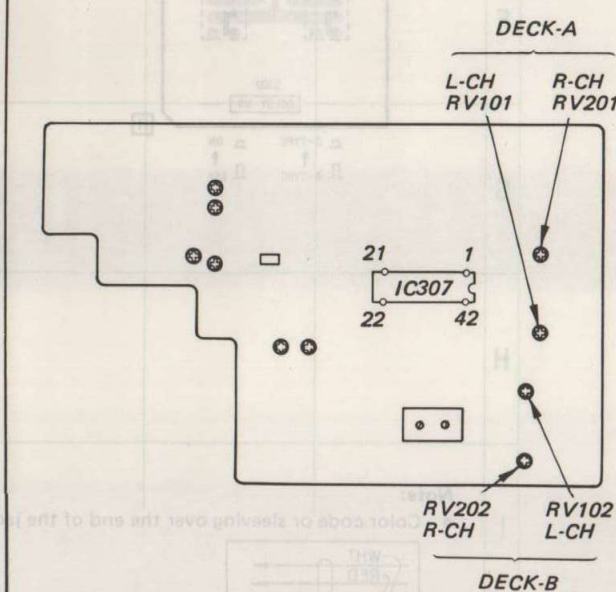
DECK-A side RV101 (L-CH), RV201 (R-CH)
DECK-B side RV102 (L-CH), RV202 (R-CH)
so that the specifications are satisfied.

Specification:

LINE OUT level: 0.44 V (–5 dB)

level difference between the channels:
within 0.5 dB

Adjustment Location: audio board



TC-W21/W27/W250

TC-W21/W27/W250

Record BIAS Current Adjustment

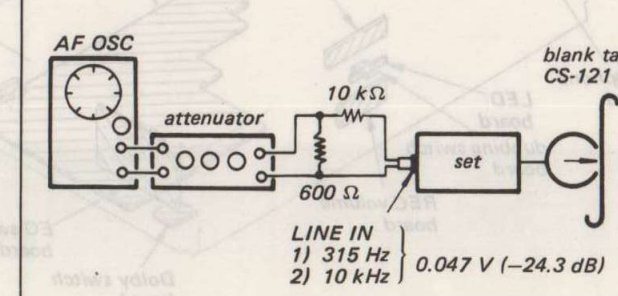
DECK B

Setting:

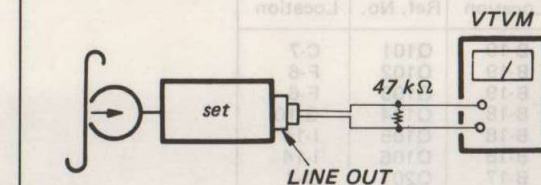
TAPE SELECT: NORMAL (DECK-B)

Procedure:

- Mode: record



- Mode: playback

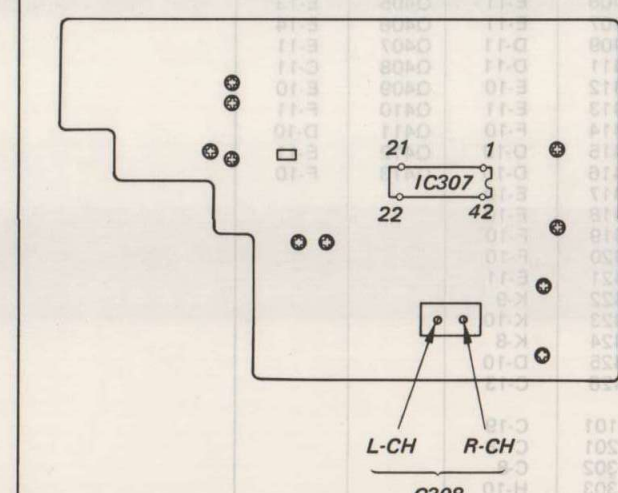


Play back the tape recorded in step 1. If the specification is not satisfied, adjust C308 and repeat steps 1 and 2.

Specification:

The LINE OUT level of 10 kHz signal relative to that of 315 Hz: –0.5 dB to 0.5 dB.

Adjustment Location: audio board



Record Level Adjustment

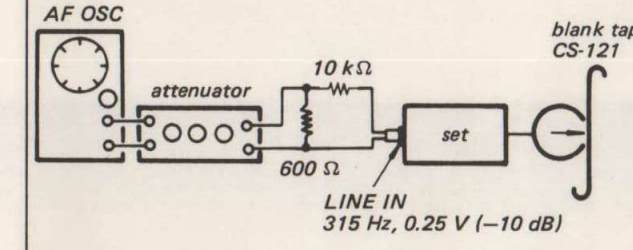
DECK B

Setting:

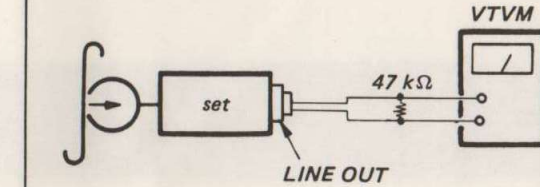
TAPE SELECT: NORMAL (DECK-B)

Procedure:

- Mode: record



- Mode: playback

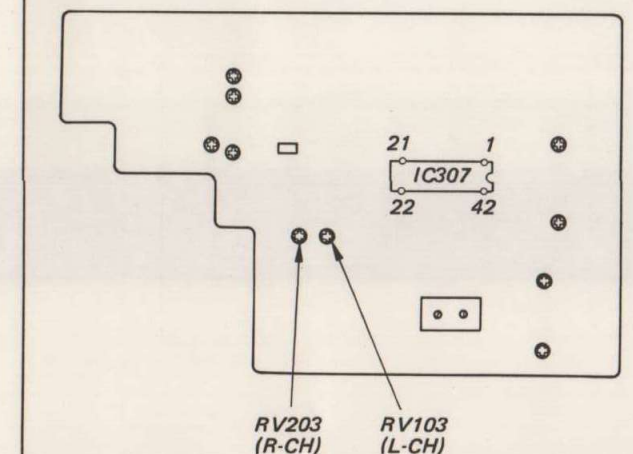


Play back the tape recorded in step 1. If the specification is not satisfied, adjust RV103 (L-CH), RV203 (R-CH) and repeat steps 1 and 2.

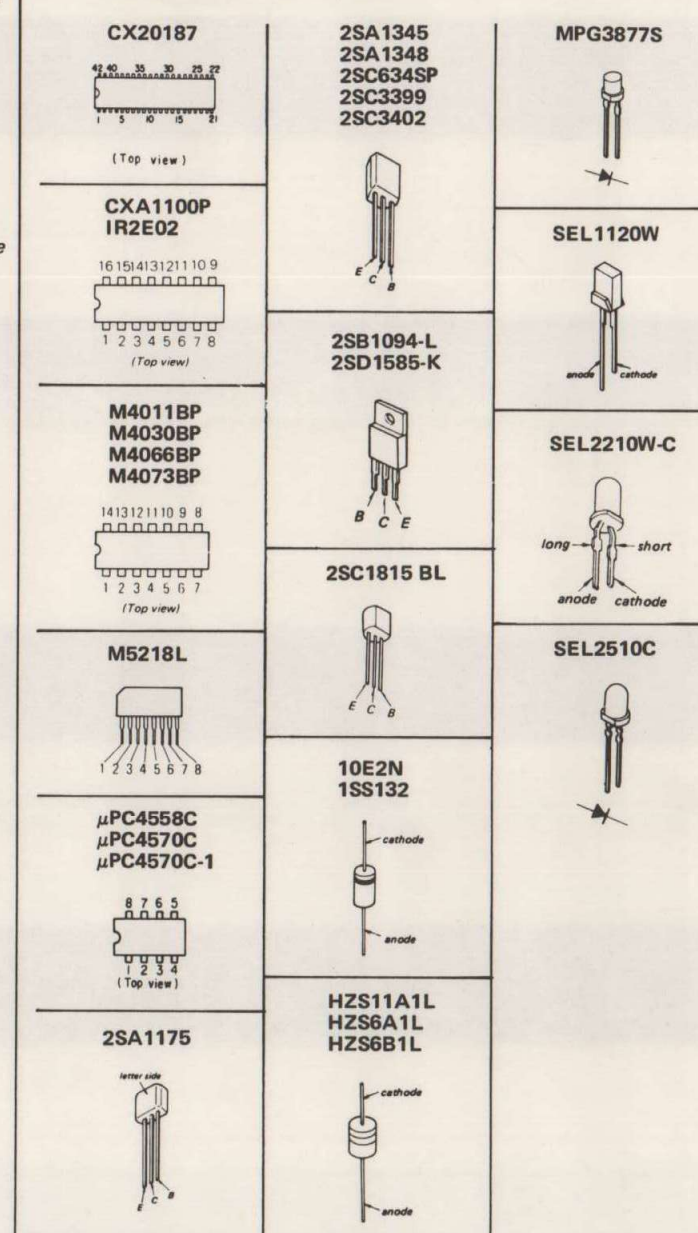
Specification:

LINE OUT level: 0.44 V (–5 dB)

Adjustment Location: audio board



Semiconductor Lead Layouts

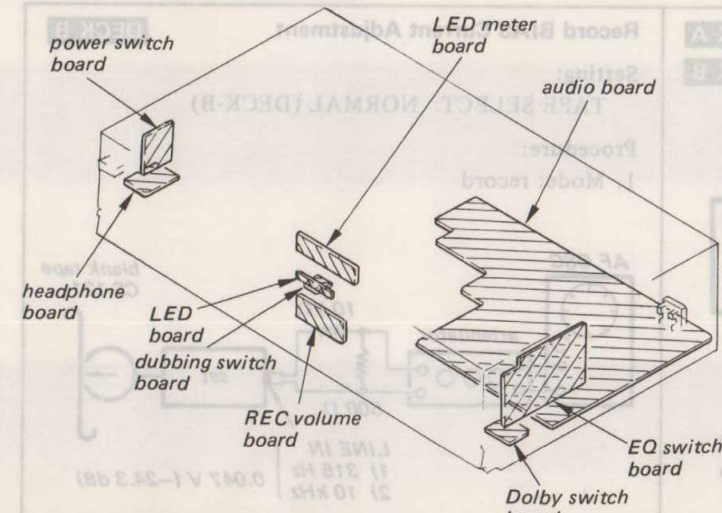


2-1. TC-W27/W250 MOUNTING DIAGRAM

SECTION 2
DIAGRAMS

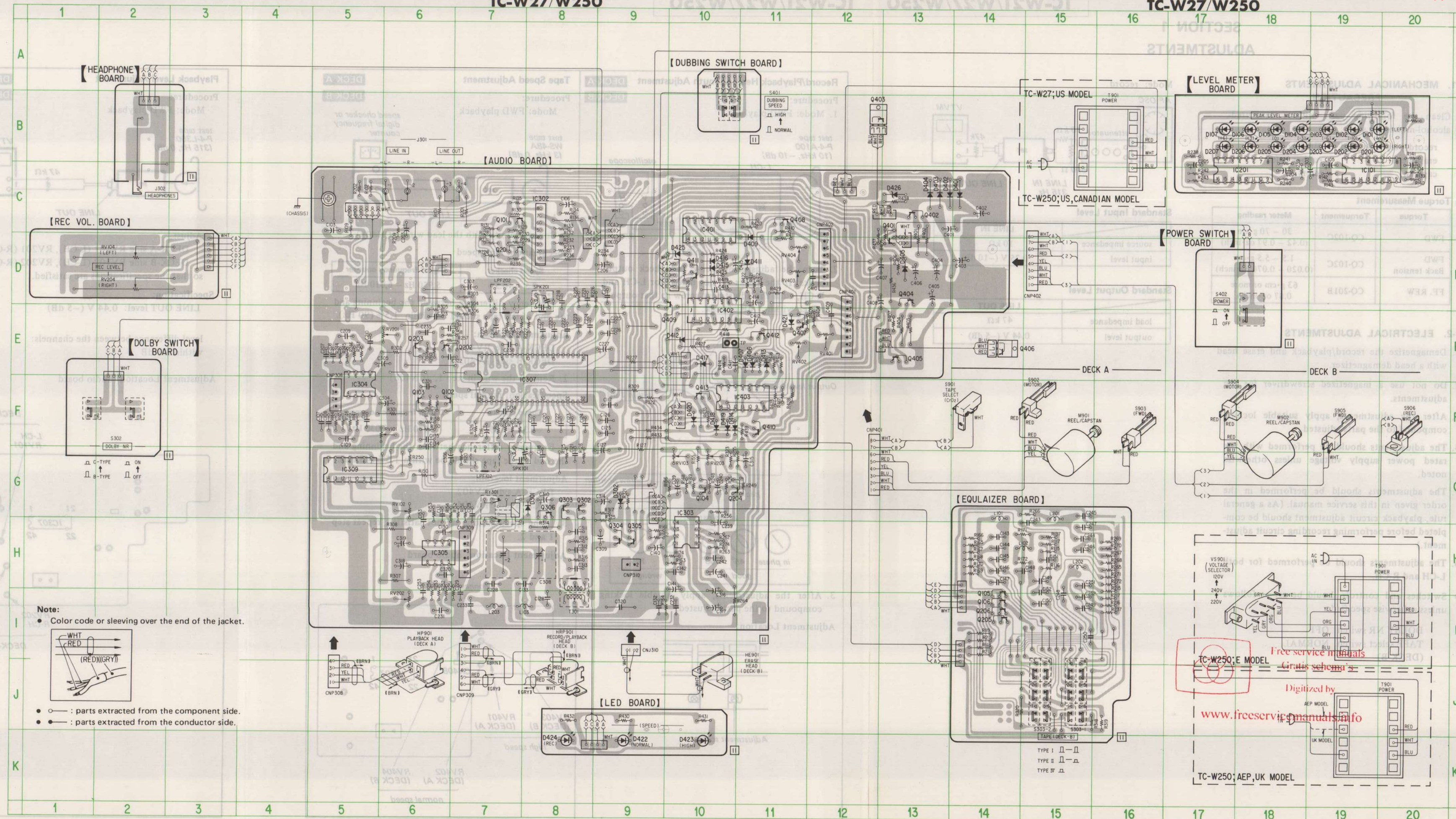
- See page 8 for Semiconductor Lead Layouts.

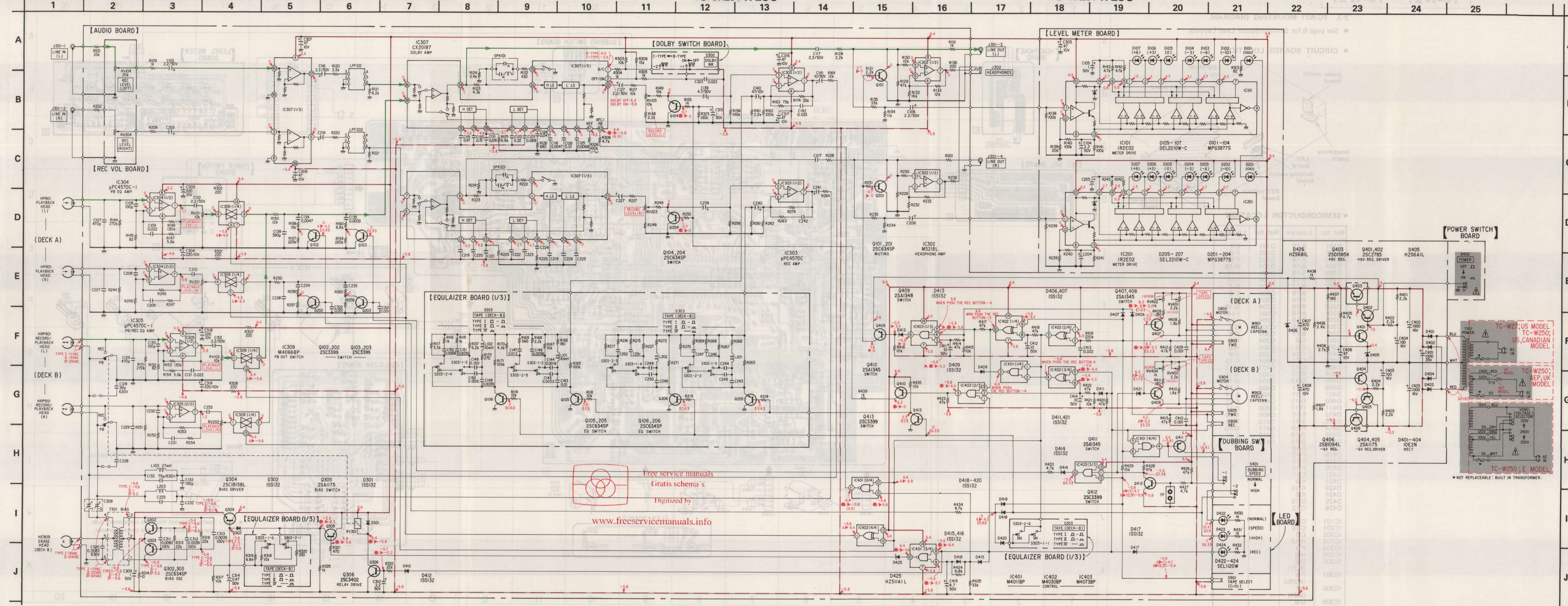
CIRCUIT BOARDS LOCATION



SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D101	B-19	Q101	C-7
D102	B-19	Q102	F-6
D103	B-19	Q103	F-6
D104	B-18	Q104	G-10
D105	B-18	Q105	I-14
D106	B-18	Q106	I-14
D107	B-17	Q201	D-7
D201	B-19	Q202	E-6
D202	B-19	Q203	E-6
D203	B-19	Q204	G-10
D204	B-18	Q205	I-14
D205	B-18	Q206	I-14
D206	B-18	Q302	G-8
D207	B-17	Q303	G-8
D301	G-8	Q304	H-9
D302	G-9	Q305	H-9
D401	C-14	Q306	G-8
D402	C-13	Q401	C-13
D403	C-13	Q402	C-13
D404	C-13	Q403	B-12
D405	D-13	Q404	D-13
D406	E-11	Q405	E-13
D407	E-11	Q406	E-14
D409	D-11	Q407	E-11
D411	D-11	Q408	C-11
D412	E-10	Q409	E-10
D413	E-11	Q410	F-11
D414	F-10	Q411	D-10
D415	D-10	Q412	E-11
D416	D-10	Q413	F-10
D417	E-10		
D418	F-10		
D419	F-10		
D420	F-10		
D421	E-11		
D422	K-9		
D423	K-10		
D424	K-8		
D425	D-10		
D426	C-13		
IC101	C-19		
IC201	C-18		
IC302	C-8		
IC303	H-10		
IC304	F-5		
IC305	H-6		
IC306	D-5		
IC307	F-8 (W21)		
IC308	F-7 (W250)		
IC309	G-5		
IC401	C-10		
IC402	E-10		
IC403	F-11		





Note:

- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- Signal path.
- B+ bus.
- B- bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 $\text{k}\Omega/\text{V}$).
- A ▶ : PLAY (DECK-A)
- B ▶ : PLAY (DECK-B)
- ◀ ▶ : REC (DECK-B)
- << >> : NORMAL SPEED DUBBING
- <<< >>> : HIGH SPEED DUBBING

Switch

Ref. No.	Switch	Position
S302 (TC-W27/W250)	DOLBY NR	OFF
S303 (TC-W27/W250)	TAPE (DECK-B)	NORMAL
S304-1, 2 (TC-W21)	TAPE (DECK-B)	NORMAL
S304-3 (TC-W21)	DOLBY NR	OFF
S401	DUBBING SPEED	NORMAL
S402	POWER	—
S901 (DECK-A)	(TAPE SELECT)	NORMAL
S902 (DECK-A)	(MOTOR)	OFF
S903 (DECK-A)	(FWD)	ON
S904 (DECK-B)	(MOTOR)	OFF
S905 (DECK-B)	(FWD)	ON
S906 (DECK-B)	(REC)	ON
VS901 (TC-W250: E)	VOLTAGE SELECTOR	220V

Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

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

TC-W27; US MODEL
TC-W250; US, CANADIAN MODEL
TC-W250; AEP, UK MODEL
TC-W250; E MODEL

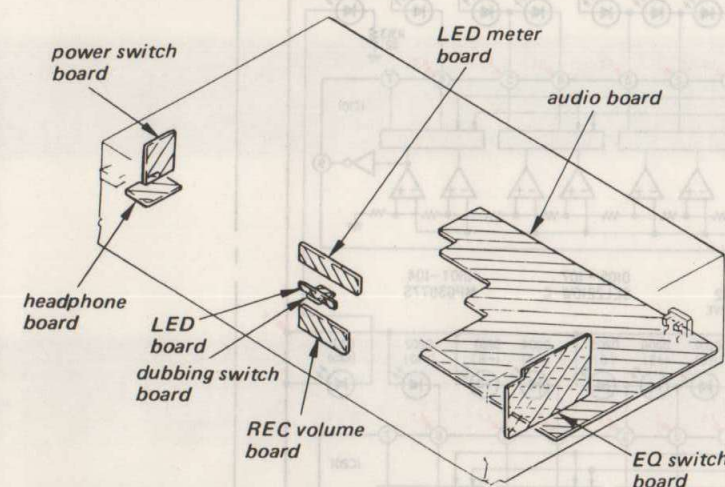
* NOT REPLACABLE: BUILT IN TRANSFORMER.

TC-W21 TC-W21

2-3. TC-W21 MOUNTING DIAGRAM

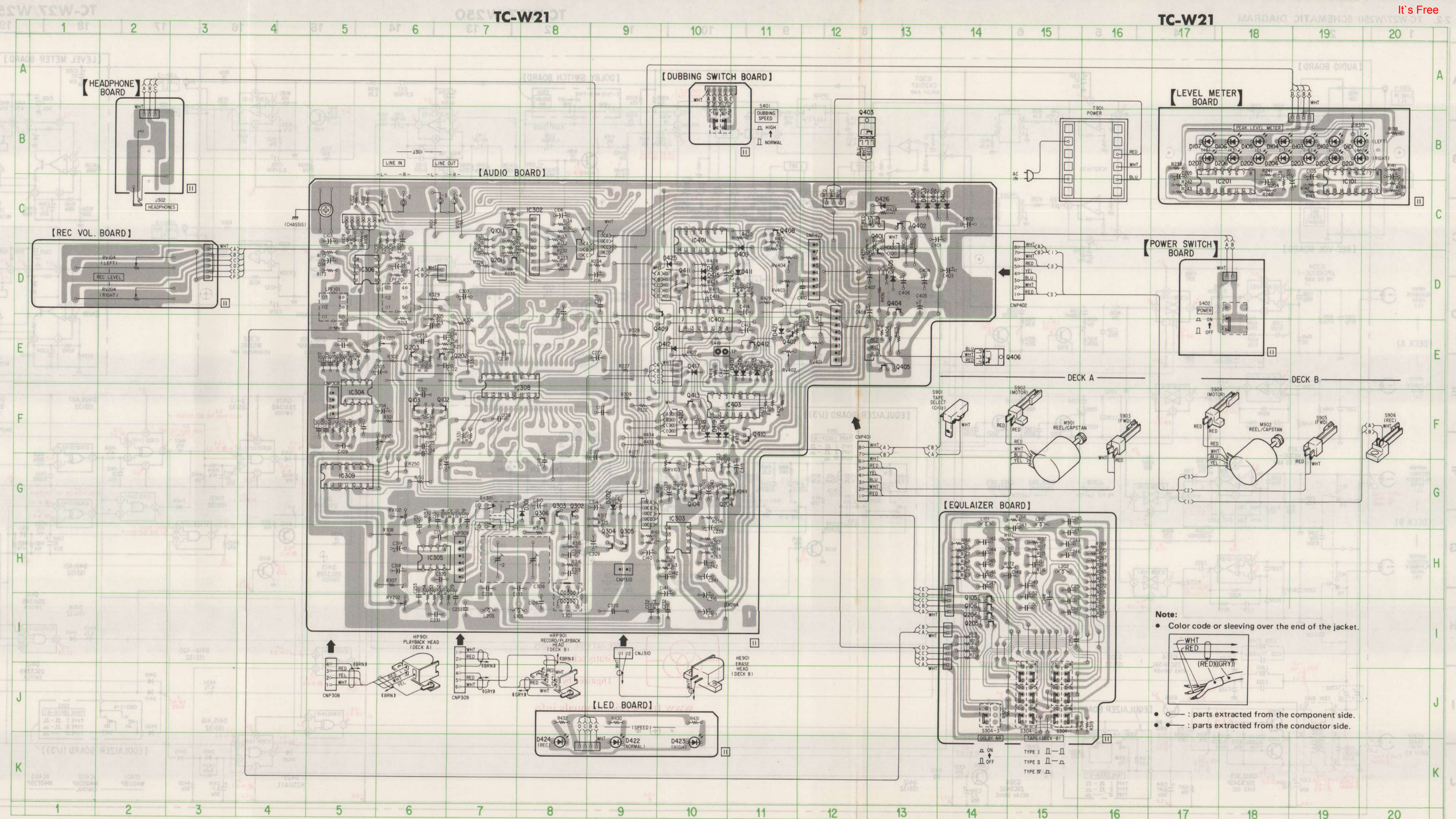
- See page 8 for Semiconductor Lead Layouts.

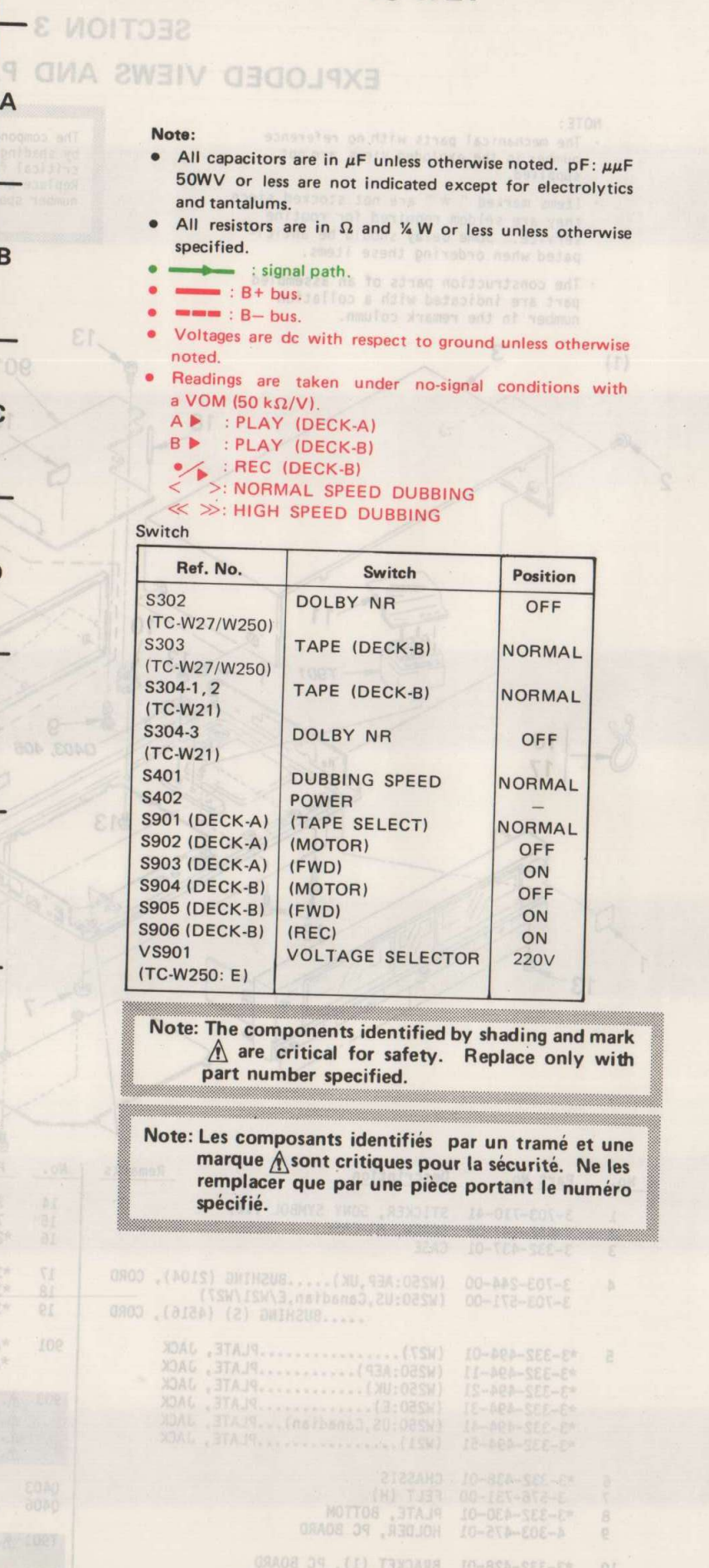
CIRCUIT BOARDS LOCATION



SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D101	B-19	Q101	C-7
D102	B-19	Q102	F-6
D103	B-19	Q103	F-6
D104	B-18	Q104	G-10
D105	B-18	Q105	I-14
D106	B-18	Q106	I-14
D107	B-17	Q201	D-7
D201	B-19	Q202	E-6
D202	B-19	Q203	E-6
D203	B-19	Q204	G-10
D204	B-18	Q205	I-14
D205	B-18	Q206	I-14
D206	B-18	Q302	G-8
D207	B-17	Q303	G-8
D301	G-8	Q304	H-9
D302	G-9	Q305	H-9
D401	C-14	Q306	G-8
D402	C-13	Q401	C-13
D403	C-13	Q402	C-13
D404	C-13	Q403	B-12
D405	D-13	Q404	D-13
D406	E-11	Q405	E-13
D407	E-11	Q406	E-14
D409	D-11	Q407	E-11
D411	D-11	Q408	C-11
D412	E-10	Q409	E-10
D413	E-11	Q410	F-11
D414	F-10	Q411	D-10
D415	D-10	Q412	E-11
D416	D-10	Q413	F-10
D417	E-10		
D418	F-10		
D419	F-10		
D420	F-10		
D421	E-11		
D422	K-9		
D423	K-10		
D424	K-8		
D425	D-10		
D426	C-13		
IC101	C-19		
IC201	C-18		
IC302	C-8		
IC303	H-10		
IC304	F-5		
IC305	H-6		
IC306	D-5		
IC307	F-8		
IC308	F-7		
IC309	G-5		
IC401	C-10		
IC402	E-10		
IC403	F-11		





SECTION 3

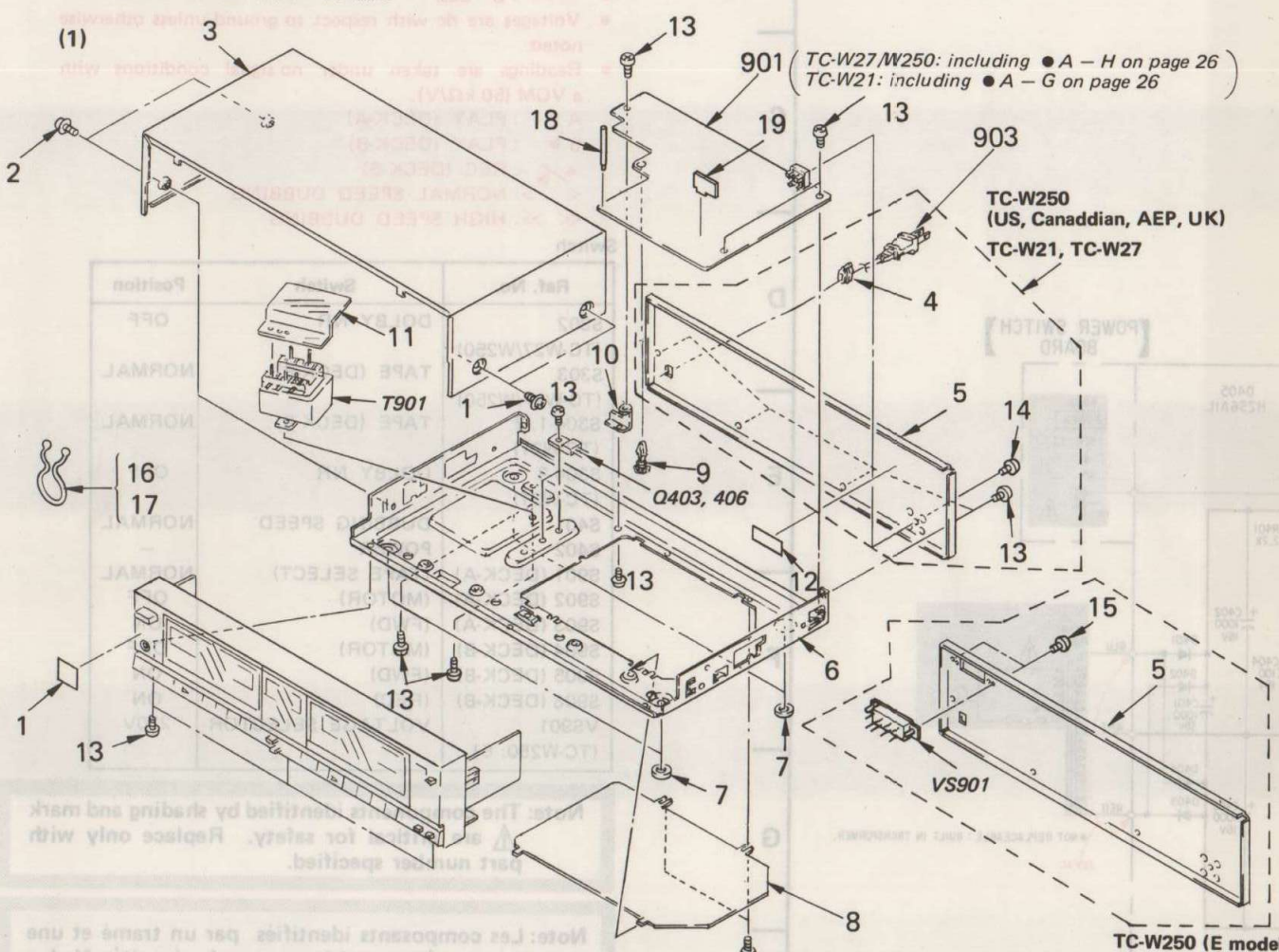
EXPLODED VIEWS AND PARTS LIST

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

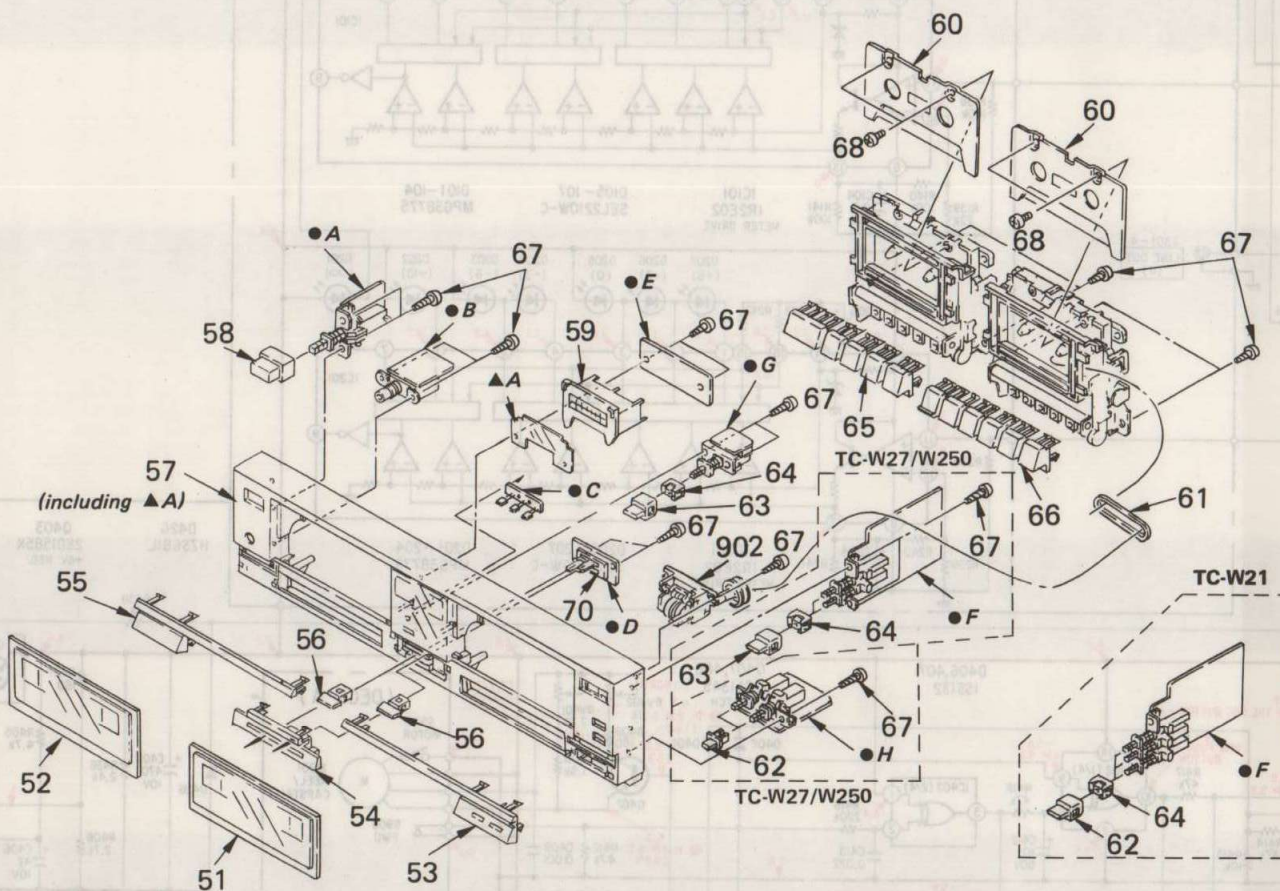
The components identified by shading and mark ▲ are critical for safety. Replace only with part number specified.

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



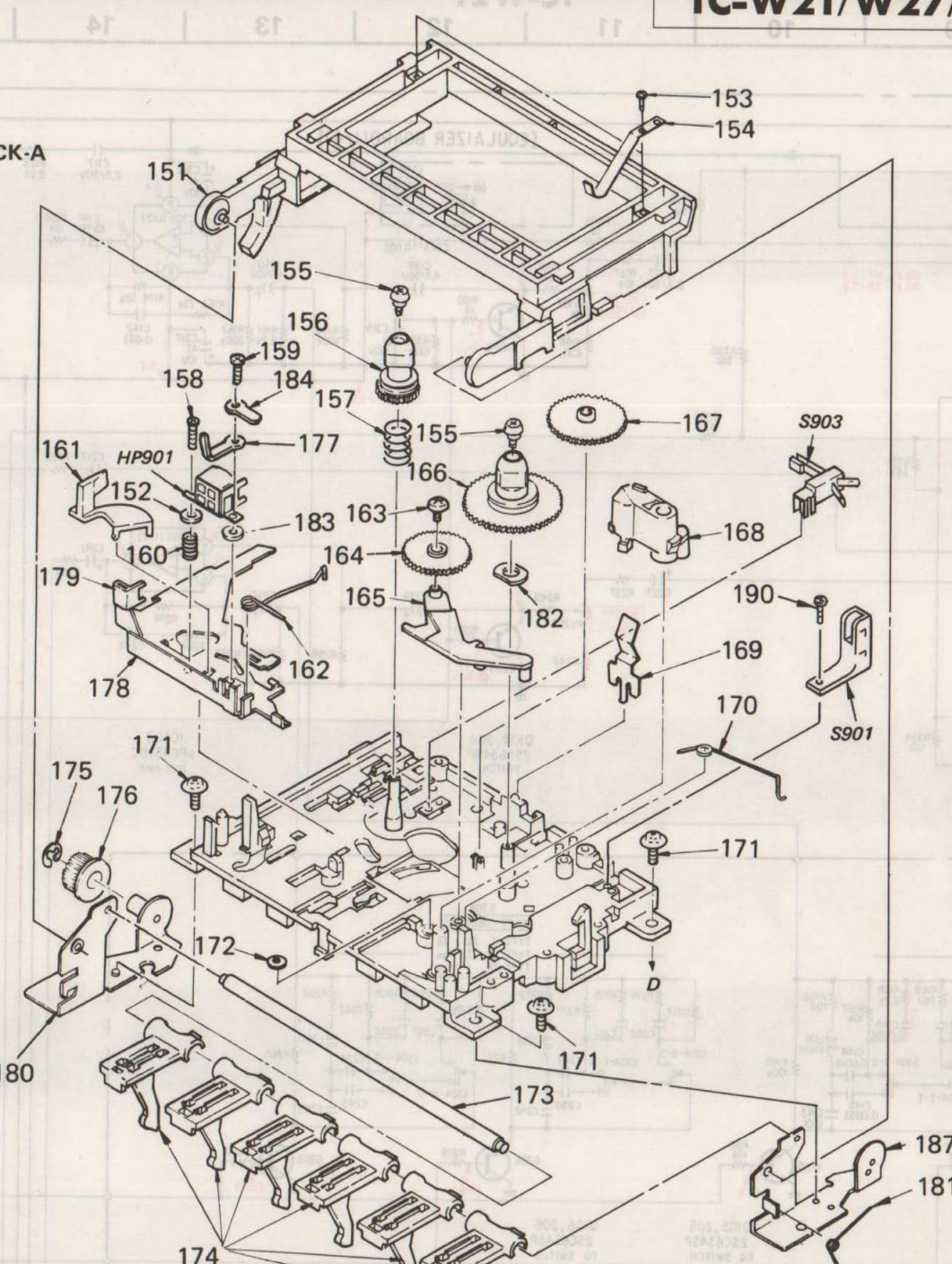
No.	Part No.	Description	Remarks
1	3-703-710-41	STICKER, SONY SYMBOL (12)	
2	7-682-147-09	SCREW, M3 CASE	
3	3-332-437-01	CASE	
4	3-703-244-00	(W250:AEP,UK).....BUSHING (2104), CORD	
	3-703-571-00	(W250:US,Canadian,E/W21/W27).....BUSHING (S) (4516), CORD	
5	*3-332-494-01	(W27).....PLATE, JACK	
	*3-332-494-11	(W250:AEP).....PLATE, JACK	
	*3-332-494-21	(W250:UK).....PLATE, JACK	
	*3-332-494-31	(W250:E).....PLATE, JACK	
	*3-332-494-41	(W250:US,Canadian).....PLATE, JACK	
	*3-332-494-51	(W21).....PLATE, JACK	
6	*3-332-438-01	CHASSIS	
7	3-576-731-00	FELT (H)	
8	*3-332-430-01	PLATE, BOTTOM	
9	4-303-475-01	HOLDER, PC BOARD	
10	*3-332-428-01	BRACKET (1), PC BOARD	
11	*3-337-136-01	COVER, TRANSFORMER SAFETY	
12	*3-701-030-00	LABEL, SERIAL NUMBER	
13	7-682-148-01	SCREW +BVTT 3X8 (S)	
14	7-685-146-14	SCREW +P 3X8 TYPE2 NON-SLIT	
15	7-685-134-19	SCREW +BTP 2.6X8 (FOR VOLTAGE SELECTOR)	
16	*2-056-666-00	PURSE LOCK (8 DIA.)	
17	*3-703-321-01	PURSE LOCK (DIA. 16)	
18	*3-683-631-01	CLAMP	
19	*3-329-941-01	PLATE, SHIELD	
901	*A-2056-364-A	(W250/W27).....MOUNTED PCB, AUDIO	
	*A-2056-365-A	(W21).....MOUNTED PCB, AUDIO	
903	▲1-534-817-XX	(W250:AEP).....CORD, EURO PLUG	
	▲1-551-188-XX	(W250:E).....CORD, POWER	
	▲1-556-562-00	(W250:UK).....CORD, POWER	
	▲1-557-578-11	(W250:US,Canadian/W21/W27).....CORD, POWER	
Q403	8-729-107-26	TRANSISTOR 2SD1585-K	
Q406	8-729-111-67	TRANSISTOR 2SB1094-L	
T901	▲1-448-804-11	(W250:US,Canadian/W21/W27).....TRANSFORMER, POWER	
	T901 ▲1-448-805-11	(W250:AEP,UK).....TRANSFORMER, POWER	
	T901 ▲1-448-806-11	(W250:E).....TRANSFORMER, POWER	
	VS901 ▲1-570-307-11	(W250:E).....SWITCH, VOLTAGE CHANGE	

(2)



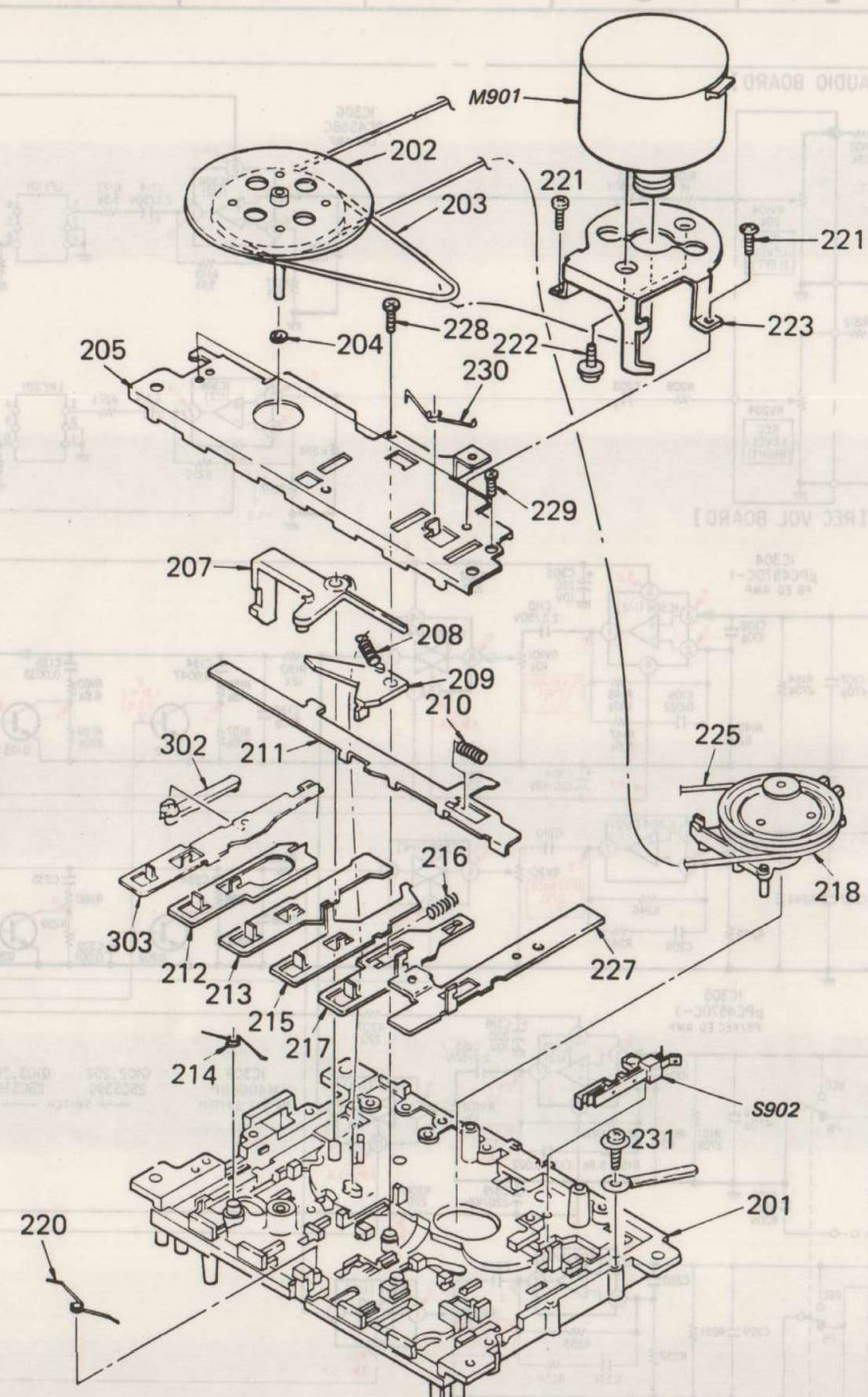
No.	Part No.	Description	Remarks
51	X-3332-450-1	(W250:US).....LID (B) ASSY, CASSETTE	
	X-3332-452-1	(W21).....LID (B) ASSY, CASSETTE	
	4-919-316-61	(W250:AEP,E,UK,Canadian/W27).....LID (B), CASSETTE	
52	X-3332-451-1	(W250:US).....LID (A) ASSY, CASSETTE	
	X-3332-453-1	(W21).....LID (A) ASSY, CASSETTE	
	4-919-316-51	(W250:AEP,E,UK,Canadian/W27).....LID (A), CASSETTE	
53	3-332-488-01	(W250/W27).....PLATE (C), ORNAMENTAL	
	3-332-492-01	(W21).....PLATE (B), ORNAMENTAL	
54	3-332-489-01	PLATE (D), ORNAMENTAL	
55	3-332-487-01	PLATE (A), ORNAMENTAL	
56	4-917-253-11	KNOB (B), SLIDE	
57	X-3332-454-1	(W21).....PANEL ASSY	
	X-3332-455-1	(W250:AEP,E,UK).....PANEL ASSY	
	X-3332-456-1	(W250:US).....PANEL ASSY	
	X-3332-457-1	(W250:Canadian).....PANEL ASSY	
	X-3332-458-1	(W27).....PANEL ASSY	

(3) DECK-A



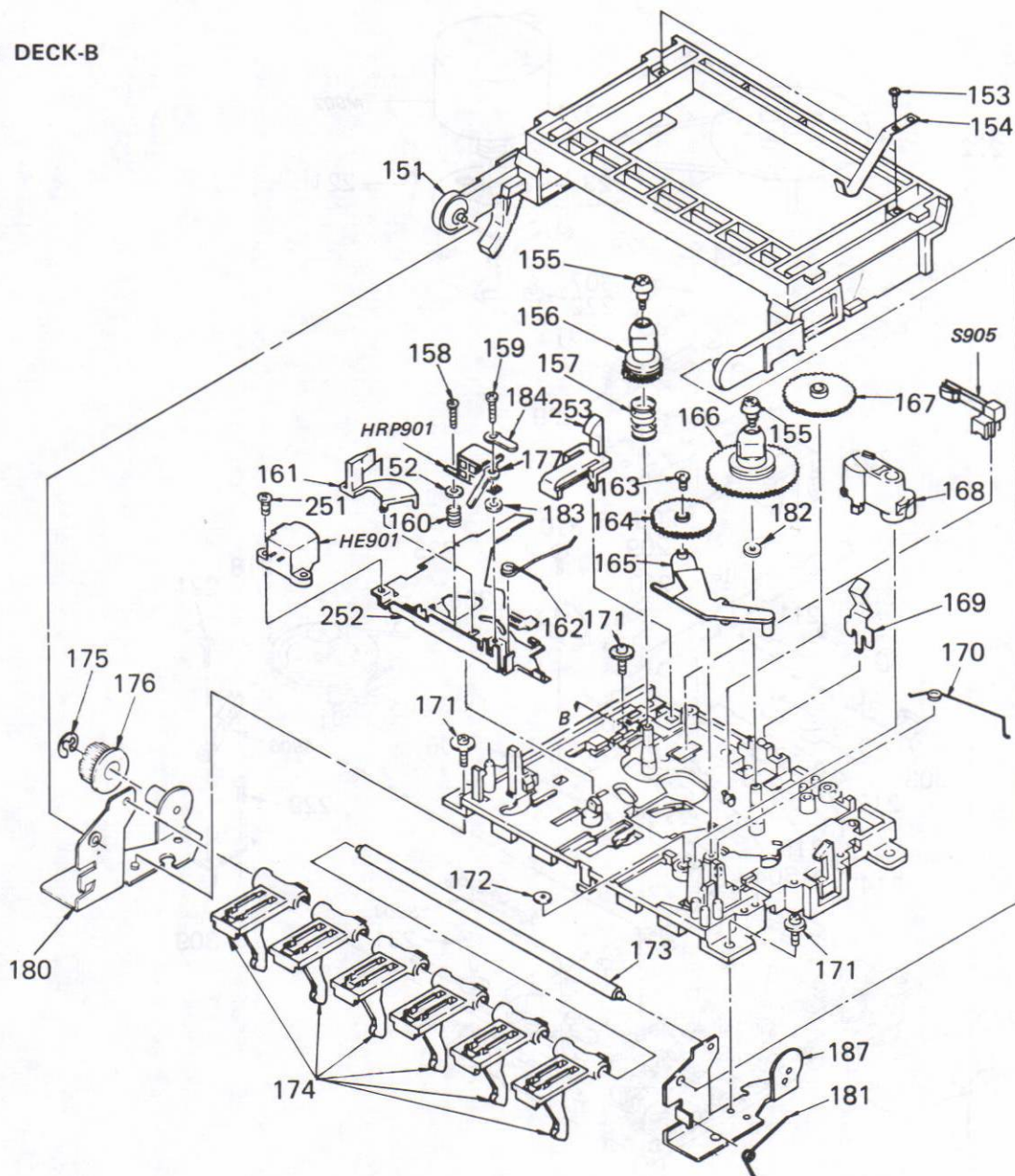
No.	Part No.	Description	Remarks
151	3-390-801-01	CASE, CASSETTE	
152	3-390-823-01	WASHER, F	
153	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT	
154	4-894-951-01	KEEP PLATE	
155	3-390-803-01	BUSHING (D)	
156	4-895-001-01	S REEL	
157	4-894-954-01	C SPRING	
158	7-621-905-65	SCREW, TOTSU P 2X8	
159	7-621-255-15	SCREW +P 2X3	
160	4-894-955-01	C SPRING	
161	4-894-956-01	TAPE SENSOR	
162	3-390-804-01	SPRING, PINCH ARM	
163	4-894-960-01	BUSH	
164	4-894-961-01	IDLER GEAR	
165	4-894-962-01	IDLER ARM	
166	4-894-963-01	T REEL ASSY	
167	4-894-964-01	F GEAR	
168	3-390-805-01	ROLLER ASSY, PINCH	
169	4-894-966-01	SPRING	
170	4-894-967-01	SPRING	
171	7-687-501-31	SCREW, TOTSU PTTWH 2.6X6	
172	4-894-969-01	N WASHER	
173	*4-894-970-01	BUTTON SHAFT W	
174	4-894-971-01	BUTTON LEVER	
175	7-624-106-04	STOP RING 3.0, TYPE -E	
176	4-895-001-01	GEAR	
177	3-390-817-01	LUG	
178	4-895-015-01	HEAD BASE	
179	4-895-016-01	TAPE GUIDE	
180	*4-894-972-01	BUTTON BRACKET R	
181	4-894-973-01	SPRING	
182	3-390-820-01	SPRING, LEAF	
183	3-390-821-01	SPACER	
184	3-390-819-01	LUG	
187	*4-895-017-01	BUTTON BRACKET L ASSY	
190	7-685-133-19	SCREW +P 2.6X6 TYPE1	
HP901	1-543-424-11	HEAD, MAGNETIC (REC/PB)	
S901	1-571-036-11	SWITCH, LEAF (DETECTION SW)	
S903	1-570-716-11	SWITCH, LEAF (FWD)	

(4) DECK-A



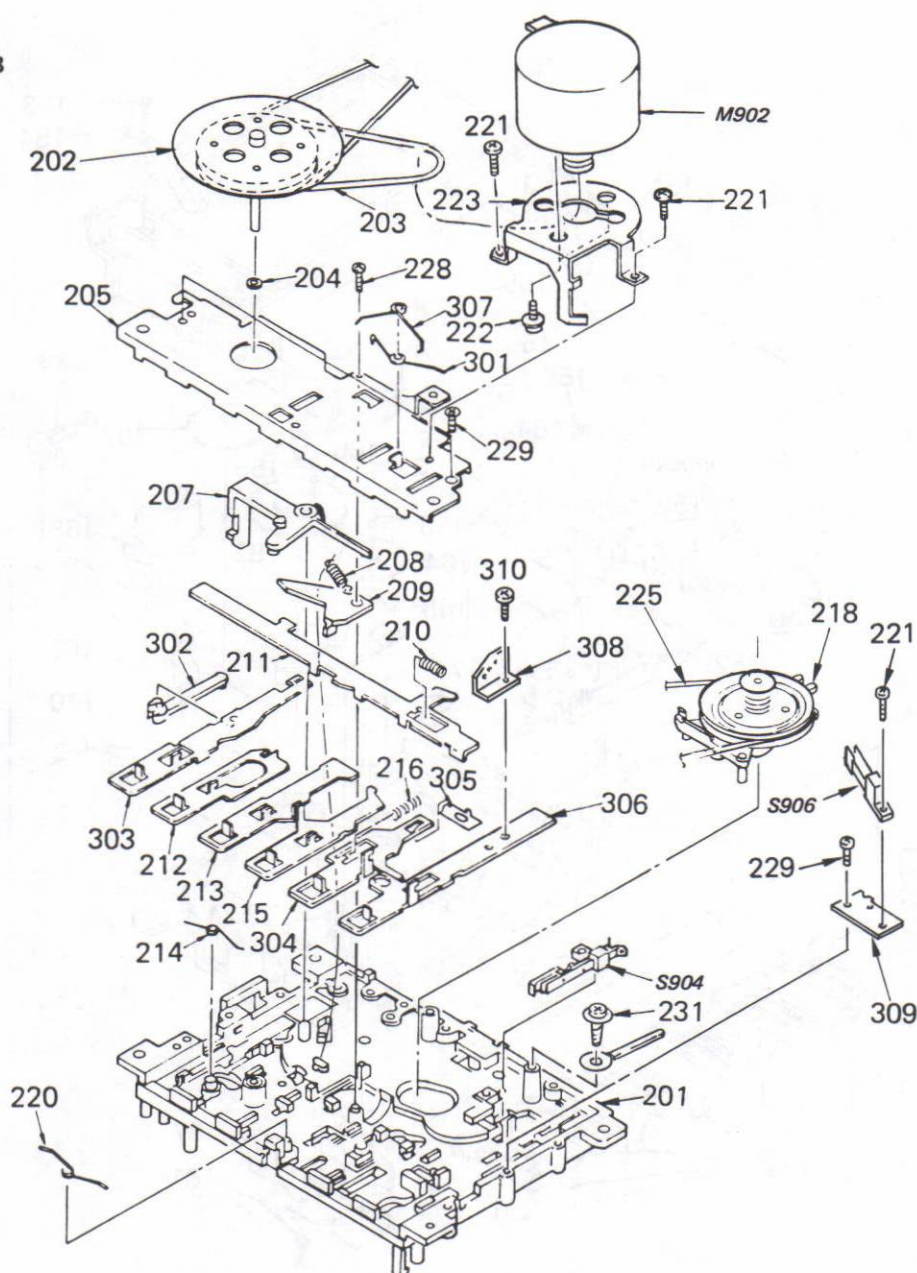
No.	Part No.	Description	Remarks
201	4-894-968-01	CHASSIS ASSY	
202	3-390-806-01	FM ASSY	
203	3-390-807-01	BELT	
204	4-894-976-01	P WASHER	
205	*4-894-977-01	BACK PLATE	
207	*4-894-980-01	EJECT ARM	
208	3-390-809-01	SPRING	
209	4-894-982-01	S ARM	
210	4-894-983-01	C SPRING	
211	*4-894-984-01	FUNCTION LEVER	
212	4-894-987-01	S.E LEVER	
213	*4-894-988-01	FF LEVER W	
214	4-894-989-01	SPRING	
215	*4-894-990-01	REW LEVER	
216	3-390-827-01	SPRING	
217	3-390-810-01	LEVER, PLAY	
218	4-894-997-01	POWER ARM ASSY	
220	4-894-999-01	SPRING	
221	7-685-781-04	SCREW +PTT 2X4 (S)	
222	7-628-253-90	SCREW +PS 2.6X4	
223	*3-390-814-01	BRACKET, MOTOR	
225	3-390-816-01	BELT, SQUARE	
227	*4-894-994-01	REC LEVER	
228	3-390-822-01	BUSHING (C)	
229	7-685-133-19	SCREW +P 2.6X6 TYPE1	
230	4-894-978-01	SPRING	
231	7-687-233-11	SCREW (+ PTPWH) (2.6X6)	
302	*4-894-985-01	PAUSE ARM	
303	4-894-986-01	PAUSE LEVER	
M901	X-3390-801-1	MOTOR ASSY	
S902	1-570-715-11	SWITCH, LEAF (MOTOR)	

(5) DECK-B



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
151	3-390-801-01	CASE, CASSETTE		171	7-687-501-31	SCREW, TOTSU PTTWH 2.6X6	
152	3-390-823-01	WASHER, F		172	4-894-969-01	N WASHER	
153	7-685-103-19	SCREW +P 2X5 TYPE2 NON-SLIT		173	*4-894-970-01	BUTTON SHAFT W	
154	4-894-951-01	KEEP PLATE		174	4-894-971-01	BUTTON LEVER	
155	3-390-803-01	BUSHING (D)		175	7-624-106-04	STOP RING 3.0, TYPE -E	
156	4-894-953-01	S REEL		176	4-895-001-01	GEAR	
157	4-894-954-01	C SPRING		177	3-390-817-01	LUG	
158	7-621-905-65	SCREW, TOTSU P 2X8		180	*4-894-972-01	BUTTON BRACKET R	
159	7-621-255-15	SCREW +P 2X3		181	4-894-973-01	SPRING	
160	4-894-955-01	C SPRING		182	3-390-820-01	SPRING, LEAF	
161	4-894-956-01	TAPE SENSOR		183	3-390-821-01	SPACER	
162	3-390-804-01	SPRING, PINCH ARM		184	3-390-819-01	LUG	
163	4-894-960-01	BUSH		187	*4-895-017-01	BUTTON BRACKET L ASSY	
164	4-894-961-01	IDLER GEAR		251	7-685-852-01	SCREW +BVTT 2X5 (S)	
165	4-894-962-01	IDLER ARM		252	4-894-957-01	HEAD BASE B	
166	4-894-963-01	T REEL ASSY		253	4-894-958-01	INTERLOCK ARM	
167	4-894-964-01	F GEAR		HE909	1-543-261-11	HEAD, ERASE (886-01-24)	
168	3-390-805-01	ROLLER ASSY, PINCH		HRP901	1-543-424-11	HEAD, MAGNETIC (REC/PB)	
169	4-894-966-01	SPRING		S905	1-570-716-11	SWITCH, LEAF (FWD)	
170	4-894-967-01	SPRING					

(6) DECK-B



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
201	4-894-968-01	CHASSIS ASSY		223	*3-390-814-01	BRACKET, MOTOR	
202	3-390-806-01	FW ASSY		225	3-390-816-01	BELT, SQUARE	
203	3-390-807-01	BELT		228	3-390-822-01	BUSHING (C)	
204	4-894-976-01	P WASHER		229	7-685-133-19	SCREW +P 2.6X6 TYPE1	
205	*4-894-977-01	BACK PLATE		230	4-894-978-01	SPRING	
207	*4-894-980-01	EJECT ARM		231	7-687-233-11	SCREW (+ PTPWH) (2.6X6)	
208	3-390-809-01	SPRING		301	4-894-979-01	SPRING	
209	4-894-982-01	S ARM		302	*4-894-985-01	PAUSE ARM	
210	4-894-983-01	C SPRING		303	4-894-986-01	PAUSE LEVER	
211	*4-894-984-01	FUNCTION LEVER		304	3-390-810-01	LEVER, PLAY	
212	4-894-987-01	S.E LEVER		305	3-390-811-01	LEVER, REC STOP	
213	*4-894-988-01	FF LEVER W		306	*4-894-994-01	REC LEVER	
214	4-894-989-01	SPRING		308	*3-390-828-01	LEVER, RSW	
215	*4-894-990-01	REW LEVER		309	*3-390-829-01	BRACKET, SW	
218	4-894-997-01	POWER ARM ASSY		310	7-685-791-04	SCREW +PTT 2.6X5 (S)	
220	4-894-999-01	SPRING		M902	X-3390-801-1	MOTOR ASSY	
221	7-685-781-04	SCREW +PTT 2X4 (S)		S904	1-570-715-11	SWITCH, LEAF (MOTOR)	
222	7-628-253-90	SCREW +PS 2.6X4		S906	1-571-037-11	SWITCH, LEAF (REC SW)	

SECTION 4

ELECTRICAL PARTS LIST

NOTE:

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

• If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF:μF, PF:μF.

RESISTORS

• All resistors are in ohms.
• F : nonflammable

COILS

• MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:

UA...: μA..., UPA...: μPA..., UPC...: μPC,
UPD...: μPD...

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

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

ELECTRICAL PARTS

Ref.No.	Part No.	Description
901	*A-2056-364-A	(W250/W27)...MOUNTED PCB, AUDIO
	*A-2056-365-A	(W21).....MOUNTED PCB, AUDIO
902	1-548-596-21	COUNTER, TAPE (MIDDLE TYPE)
903	 .1-534-817-XX	(W250/AEP)....CORD, POWER, EURO PLUG
	 .1-551-188-XX	(W250:E).....CORD, POWER
	 .1-556-562-00	(W250:UK).....CORD, POWER
	 .1-557-578-11	(W250:US,Canadian/W21/W27)..CORD, POWER
C103	1-124-925-11	ELECT 2.2MF 20% 50V
C104	1-124-925-11	ELECT 2.2MF 20% 50V
C105	1-124-791-11	ELECT 1MF 20% 50V
C106	1-124-925-11	ELECT 2.2MF 20% 50V
C107	1-162-290-31	CERAMIC 470PF 10% 50V
C108	1-162-282-31	CERAMIC 100PF 10% 50V
C109	1-136-157-00	FILM 0.022MF 5% 50V
C110	1-124-767-00	ELECT 2.2MF 20% 50V
C114	1-124-925-11	(W21).....ELECT 2.2MF 20% 50V
C116	1-124-925-11	(W250/W27)...ELECT 2.2MF 20% 50V
C117	1-124-767-00	ELECT 2.2MF 20% 50V
C118	1-110-203-00	(W250/W27)...MYLAR 0.0047MF 5% 50V
C118	1-136-175-00	(W21).....FILM 0.68MF 5% 50V
C119	1-136-173-00	(W250/W27)...FILM 0.47MF 5% 50V
C120	1-136-167-00	(W250/W27)...FILM 0.15MF 5% 50V
C121	1-136-155-00	(W250/W27)...FILM 0.015MF 5% 50V
C122	1-136-169-00	(W250/W27)...FILM 0.22MF 5% 50V
C123	1-136-163-00	(W250/W27)...FILM 0.068MF 5% 50V
C124	1-136-161-00	(W250/W27)...FILM 0.047MF 5% 50V
C125	1-130-481-00	(W250/W27)...MYLAR 0.0068MF 5% 50V
C126	1-136-153-00	(W250/W27)...FILM 0.01MF 5% 50V
C127	1-124-925-11	ELECT 2.2MF 20% 50V
C128	1-136-440-11	FILM 39PF 5% 630V
C129	1-162-290-31	CERAMIC 470PF 10% 50V
C130	1-162-282-31	CERAMIC 100PF 10% 50V
C131	1-136-157-00	FILM 0.022MF 5% 50V
C132	1-162-284-31	CERAMIC 150PF 10% 50V
C133	1-136-273-91	FILM 75PF 5% 630V
C134	1-161-377-00	CERAMIC 0.0047MF 30% 16V
C135	1-161-327-00	CERAMIC 0.0033MF 30% 16V
C138	1-162-289-31	CERAMIC 390PF 10% 50V
C139	1-124-927-11	ELECT 4.7MF 20% 50V
C140	1-124-446-11	ELECT 47MF 20% 10V
C141	1-123-875-91	ELECT 10MF 20% 50V
C142	1-136-159-00	FILM 0.033MF 5% 50V
C143	1-136-153-00	FILM 0.01MF 5% 50V
C144	1-130-474-00	MYLAR 0.0018MF 5% 50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
C145	1-110-201-00	MYLAR 0.0033MF 5% 50V
C146	1-130-480-00	MYLAR 0.0056MF 5% 50V
C147	1-136-154-00	FILM 0.012MF 5% 50V
C148	1-130-478-00	MYLAR 0.0039MF 5% 50V
C149	1-130-471-00	MYLAR 0.001MF 5% 50V
C150	1-130-473-00	MYLAR 0.0015MF 5% 50V
C151	1-130-478-00	MYLAR 0.0039MF 5% 50V
C152	1-130-481-00	MYLAR 0.0068MF 5% 50V
C153	1-124-767-00	ELECT 2.2MF 20% 50V
C203	1-124-925-11	ELECT 2.2MF 20% 50V
C204	1-124-925-11	ELECT 2.2MF 20% 50V
C205	1-124-791-11	ELECT 1MF 20% 50V
C206	1-124-925-11	ELECT 2.2MF 20% 50V
C207	1-162-290-31	CERAMIC 470PF 10% 50V
C208	1-162-282-31	CERAMIC 100PF 10% 50V
C209	1-136-157-00	FILM 0.022MF 5% 50V
C210	1-124-767-00	ELECT 2.2MF 20% 50V
C214	1-124-925-11	(W21).....ELECT 2.2MF 20% 50V
C216	1-124-925-11	(W250/W27)...ELECT 2.2MF 20% 50V
C217	1-124-767-00	ELECT 2.2MF 20% 50V
C218	1-110-203-00	(W250/W27)...MYLAR 0.0047MF 5% 50V
C218	1-136-175-00	(W21).....FILM 0.68MF 5% 50V
C219	1-136-173-00	(W250/W27)...FILM 0.47MF 5% 50V
C220	1-136-167-00	(W250/W27)...FILM 0.15MF 5% 50V
C221	1-136-155-00	(W250/W27)...FILM 0.015MF 5% 50V
C222	1-136-169-00	(W250/W27)...FILM 0.22MF 5% 50V
C223	1-136-163-00	(W250/W27)...FILM 0.068MF 5% 50V
C224	1-136-161-00	(W250/W27)...FILM 0.047MF 5% 50V
C225	1-130-481-00	(W250/W27)...MYLAR 0.0068MF 5% 50V
C226	1-136-153-00	FILM 0.01MF 5% 50V
C227	1-124-925-11	ELECT 2.2MF 20% 50V
C228	1-136-440-11	FILM 39PF 5% 630V
C229	1-162-240-31	CERAMIC 470PF 10% 50V
C230	1-162-282-31	CERAMIC 100PF 10% 50V
C231	1-136-157-00	FILM 0.022MF 5% 50V
C232	1-162-284-31	CERAMIC 150PF 10% 50V
C233	1-136-273-91	FILM 75PF 5% 630V
C234	1-161-377-00	CERAMIC 0.0047MF 30% 16V
C235	1-161-327-00	CERAMIC 0.0033MF 30% 16V
C238	1-162-289-31	CERAMIC 390PF 10% 50V
C239	1-124-927-11	ELECT 4.7MF 20% 50V
C240	1-124-446-11	ELECT 47MF 20% 10V
C241	1-123-875-91	ELECT 10MF 20% 50V
C242	1-136-159-00	FILM 0.033MF 5% 50V
C243	1-136-153-00	FILM 0.01MF 5% 50V
C244	1-130-474-00	MYLAR 0.0018MF 5% 50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C245	1-110-201-00	MYLAR	0.0033MF	5%	50V
C246	1-130-480-00	MYLAR	0.0056MF	5%	50V
C247	1-136-154-00	FILM	0.012MF	5%	50V
C248	1-130-478-00	MYLAR	0.0039MF	5%	50V
C249	1-130-471-00	MYLAR	0.001MF	5%	50V
C250	1-130-473-00	MYLAR	0.0015MF	5%	50V
C251	1-130-478-00	MYLAR	0.0039MF	5%	50V
C252	1-130-481-00	MYLAR	0.0068MF	5%	50V
C253	1-124-767-00	ELECT	2.2MF	20%	50V
C303	1-124-446-11	ELECT	47MF	20%	10V
C304	1-124-444-00	ELECT	220MF	20%	10V
C305	1-124-444-00	ELECT	220MF	20%	10V
C306	1-124-446-11	ELECT	47MF	20%	10V
C307	1-124-446-11	ELECT	47MF	20%	10V
C308	1-141-225-00	CAP, TUNING, TRIMAR			
C309	1-124-791-11	ELECT	1MF	20%	50V
C310	1-124-925-11	ELECT	2.2MF	20%	50V
C311	1-130-848-00	FILM	0.0082MF	5%	100V
C312	1-136-257-00	FILM	0.0039MF	5%	100V
C313	1-136-257-00	FILM	0.0039MF	5%	100V
C314	1-124-902-00	ELECT	0.47MF	20%	50V
C315	1-124-791-11	ELECT	1MF	20%	50V
C316	1-124-446-11	ELECT	47MF	20%	10V
C317	1-124-446-11	ELECT	47MF	20%	10V
C318	1-124-444-00	ELECT	220MF	20%	10V
C319	1-124-444-00	ELECT	220MF	20%	10V
C320	1-129-713-00	FILM	0.0082MF	10%	630V
C321	1-162-294-31	CERAMIC	0.001MF	10%	50V
C322	1-162-294-31	CERAMIC	0.001MF	10%	50V
C323	1-161-494-00	CERAMIC	0.022MF		25V
C401	1-126-105-11	ELECT	1000MF	20%	35V
C402	1-124-555-00	ELECT	1000MF	20%	16V
C403	1-124-555-00	ELECT	1000MF	20%	16V
C404	1-124-445-00	ELECT	100MF	20%	16V
C405	1-124-445-00	ELECT	100MF	20%	16V
C406	1-124-446-11	ELECT	47MF	20%	10V
C407	1-124-472-11	ELECT	470MF	20%	10V
C408	1-124-472-11	ELECT	470MF	20%	10V
C409	1-162-294-31	CERAMIC	0.001MF	10%	50V
C410	1-162-294-31	CERAMIC	0.001MF	10%	50V
C411	1-123-875-91	ELECT	10MF	20%	50V
C412	1-123-875-91	ELECT	10MF	20%	50V
C413	1-161-494-00	CERAMIC	0.022MF		25V
C414	1-123-875-91	ELECT	10MF	20%	50V
C415	1-124-927-11	ELECT	4.7MF	20%	50V
CN308	*1-564-507-11	PLUG, CONNECTOR 4P			
CN309	*1-564-509-11	PLUG, CONNECTOR 6P			
CN310	*1-564-505-11	PLUG, CONNECTOR 2P			
CN401	*1-564-511-11	PLUG, CONNECTOR 8P			
CN402	*1-564-511-21	PLUG, CONNECTOR 8P			
CN408	*1-564-505-21	PLUG, CONNECTOR 2P			
D101	8-719-942-15	DIODE MPG3877S (00)			
D102	8-719-942-15	DIODE MPG3877S (-10)			
D103	8-719-942-15	DIODE MPG3877S (-6)			
D104	8-719-942-15	DIODE MPG3877S (-3)			
D105	8-719-302-74	DIODE SEL2210W-C (0)			
D106	8-719-302-74	DIODE SEL2210W-C (+3)			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D107	8-719-302-74	DIODE SEL2210W-C (+6)
D201	8-719-942-15	DIODE MPG3877S (00)
D202	8-719-942-15	DIODE MPG3877S (-10)
D203	8-719-942-15	DIODE MPG3877S (-6)
D204	8-719-942-15	DIODE MPG3877S (-3)
D205	8-719-302-74	DIODE SEL2210W-C (0)
D206	8-719-302-74	DIODE SEL2210W-C (+3)
D207	8-719-302-74	DIODE SEL2210W-C (+6)
D301	8-719-940-76	DIODE 1SS132
D302	8-719-940-76	DIODE 1SS132
D401	8-719-200-77	DIODE 10E2N
D402	8-719-200-77	DIODE 10E2N
D403	8-719-200-77	DIODE 10E2N
D404	8-719-200-77	DIODE 10E2N
D405	8-719-933-33	DIODE HZS6A1L
D406	8-719-940-76	DIODE 1SS132
D407	8-719-940-76	DIODE 1SS132
D409	8-719-940-76	DIODE 1SS132
D411	8-719-940-76	DIODE 1SS132
D412	8-719-940-76	DIODE 1SS132
D413	8-719-940-76	DIODE 1SS132
D414	8-719-940-76	DIODE 1SS132
D415	8-719-940-76	DIODE 1SS132
D416	8-719-940-76	DIODE 1SS132
D417	8-719-940-76	DIODE 1SS132
D418	8-719-940-76	DIODE 1SS132
D419	8-719-940-76	DIODE 1SS132
D420	8-719-940-76	DIODE 1SS132
D421	8-719-940-76	DIODE 1SS132
D422	8-719-302-74	(W21)...DIODE SEL2210W-C (NORMAL SPEED)
D422	8-719-303-24	(W250/W27)...DIODE SEL1120W-C (NORMAL SPEED)
D423	8-719-302-74	(W21)...DIODE SEL2210W-C (SHGH SPEED)
D423	8-719-303-24	(W250/W27)...DIODE SEL1120W-C (HIGH SPEED)
D424	8-719-302-74	(W21).....DIODE SEL2210W-C (REC)
D424	8-719-303-24	(W250/W27)...DIODE SEL1120W-C (REC)
D425	8-719-933-63	DIODE HZS11A1L
D426	8-719-933-36	DIODE HZS6B1L
HE909	1-543-261-11	HEAD, ERASE (886-01-24)
HP901	1-543-424-11	HEAD, MAGNETIC (REC/PB)
HRP901	1-543-424-11	HEAD, MAGNETIC (REC/PB)
IC101	8-759-912-79	IC IR2E02
IC201	8-759-912-79	IC IR2E02
IC302	8-759-600-02	IC M5218L
IC303	8-759-106-41	IC UPC4570C
IC304	8-759-111-44	IC UPC4570C-1
IC305	8-759-111-44	IC UPC4570C-1
IC306	8-759-145-58	(W21).....IC UPC4558C
IC307	8-752-018-70	(W250/W27)...IC CX20187
IC308	8-752-031-67	(W21).....IC CXA1100P
IC309	8-759-601-43	IC M4066BP
IC401	8-759-601-10	IC M4011BP
IC402	8-759-601-29	IC M4030BP
IC403	8-759-601-48	IC M4073BP

ELECTRICAL PARTS

Ref.No.	Part No.	Description
J301	1-507-908-11	JACK, PIN 4P (LINE IN/OUT)
J302	1-507-982-11	JACK (LARGE TYPE)(HEADPHONES)
L101	1-410-775-21	MICRO INDUCTOR 10MMH
L102	1-410-775-21	MICRO INDUCTOR 10MMH
L103	1-410-780-11	MICRO INDUCTOR 27MMH
L201	1-410-775-21	MICRO INDUCTOR 10MMH
L202	1-410-775-21	MICRO INDUCTOR 10MMH
L203	1-410-780-11	MICRO INDUCTOR 27MMH
LPF102	1-235-980-11	FILTER, LOW PASS
LPF202	1-235-980-11	FILTER, LOW PASS
M901	X-3390-801-1	MOTOR ASSY
M902	X-3390-801-1	MOTOR ASSY
Q101	8-729-600-27	TRANSISTOR 2SC634SP
Q102	8-729-806-38	TRANSISTOR 2SC3399
Q103	8-729-806-38	TRANSISTOR 2SC3399
Q104	8-729-600-27	TRANSISTOR 2SC634SP
Q105	8-729-600-27	TRANSISTOR 2SC634SP
Q106	8-729-600-27	TRANSISTOR 2SC634SP
Q201	8-729-600-27	TRANSISTOR 2SC634SP
Q202	8-729-806-38	TRANSISTOR 2SC3399
Q203	8-729-806-38	TRANSISTOR 2SC3399
Q204	8-729-600-27	TRANSISTOR 2SC634SP
Q205	8-729-600-27	TRANSISTOR 2SC634SP
Q206	8-729-600-27	TRANSISTOR 2SC634SP
Q302	8-729-600-27	TRANSISTOR 2SC634SP
Q303	8-729-600-27	TRANSISTOR 2SC634SP
Q304	8-729-281-54	TRANSISTOR 2SC1815BL
Q305	8-729-117-54	TRANSISTOR 2SA1175
Q306	8-729-806-28	TRANSISTOR 2SC3402
Q401	8-729-600-27	TRANSISTOR 2SC634SP
Q402	8-729-600-27	TRANSISTOR 2SC634SP
Q403	8-729-107-26	TRANSISTOR 2SD1585-K
Q404	8-729-117-54	TRANSISTOR 2SA1175
Q405	8-729-117-54	TRANSISTOR 2SA1175
Q406	8-729-111-67	TRANSISTOR 2SB1094-L
Q407	8-729-806-20	TRANSISTOR 2SA1345
Q408	8-729-806-20	TRANSISTOR 2SA1345
Q409	9-986-159-01	TRANSISTOR 2SA1348
Q410	8-729-806-20	TRANSISTOR 2SA1345
Q411	8-729-806-20	TRANSISTOR 2SA1345
Q412	8-729-806-38	TRANSISTOR 2SC3399
Q413	8-729-806-38	TRANSISTOR 2SC3399
R101	1-249-417-11	CARBON 1K 5% 1/6W
R102	1-249-435-11	CARBON 33K 5% 1/6W
R106	1-249-441-11	(W21)...CARBON 100K 5% 1/6W
R107	1-249-433-11	(W21)...CARBON 22K 5% 1/6W
R109	1-249-417-11	CARBON 1K 5% 1/6W
R113	1-249-428-11	(W21)...CARBON 8.2K 5% 1/6W
R115	1-249-417-11	CARBON 1K 5% 1/6W
R116	1-249-417-11	CARBON 1K 5% 1/6W
R117	1-249-423-11	CARBON 3.3K 5% 1/6W
R118	1-249-429-11	CARBON 10K 5% 1/6W
R119	1-249-429-11	CARBON 10K 5% 1/6W
R120	1-249-423-11	(W250/W27)...CARBON 3.3K 5% 1/6W
R121	1-249-428-11	(W250/W27)...CARBON 8.2K 5% 1/6W
R122	1-247-822-00	(W250/W27)...CARBON 430 5% 1/6W
R123	1-215-436-00	(W250/W27)...CARBON 4.3K 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description
R124	1-215-430-00	(W250/W27)...CARBON 2.4K 5% 1/6W
R125	1-249-427-11	(W250/W27)...CARBON 6.8K 5% 1/6W
R126	1-249-415-11	(W250/W27)...CARBON 680 5% 1/6W
R127	1-249-429-11	CARBON 10K 5% 1/6W
R128	1-249-421-11	CARBON 2.2K 5% 1/6W
R129	1-249-430-11	(W21)...CARBON 12K 5% 1/6W
R129	1-249-437-11	(W250/W27)...CARBON 47K 5% 1/6W
R130	1-249-429-11	CARBON 10K 5% 1/6W
R131	1-249-421-11	CARBON 2.2K 5% 1/6W
R132	1-215-450-00	CARBON 16K 5% 1/6W
R133	1-249-430-11	CARBON 12K 5% 1/6W
R134	1-215-446-00	CARBON 11K 5% 1/6W
R135	1-249-435-11	CARBON 33K 5% 1/6W
R136	1-247-704-11	CARBON 220 5% 1/4W
R137	1-215-440-00	CARBON 6.2K 5% 1/6W
R138	1-249-441-11	CARBON 100K 5% 1/6W
R139	1-249-433-11	CARBON 22K 5% 1/6W
R140	1-249-441-11	CARBON 100K 5% 1/6W
R141	1-249-441-11	CARBON 100K 5% 1/6W
R142	1-249-425-11	CARBON 4.7K 5% 1/6W
R143	1-249-425-11	CARBON 4.7K 5% 1/6W
R144	1-215-479-00	CARBON 270K 5% 1/6W
R145	1-249-404-00	CARBON 82 5% 1/6W
R146	1-215-472-00	CARBON 130K 5% 1/6W
R147	1-247-849-00	CARBON 5.6K 5% 1/6W
R148	1-249-421-11	CARBON 2.2K 5% 1/6W
R149	1-249-429-11	CARBON 10K 5% 1/6W
R150	1-249-430-11	CARBON 12K 5% 1/6W
R151	1-215-479-00	CARBON 270K 5% 1/6W
R152	1-249-404-00	CARBON 82 5% 1/6W
R153	1-215-472-00	CARBON 130K 5% 1/6W
R154	1-247-849-00	CARBON 5.6K 5% 1/6W
R155	1-249-417-11	CARBON 1K 5% 1/6W
R156	1-249-441-11	CARBON 100K 5% 1/6W
R157	1-247-887-00	CARBON 220K 5% 1/6W
R158	1-249-431-11	CARBON 15K 5% 1/6W
R159	1-247-887-00	CARBON 220K 5% 1/6W
R160	1-249-427-11	CARBON 6.8K 5% 1/6W
R161	1-249-421-11	CARBON 2.2K 5% 1/6W
R162	1-247-887-00	CARBON 220K 5% 1/6W
R163	1-215-466-00	CARBON 75K 5% 1/6W
R164	1-249-430-11	CARBON 12K 5% 1/6W
R165	1-249-441-11	CARBON 100K 5% 1/6W
R166	1-249-408-11	CARBON 180 5% 1/6W
R167	1-249-429-11	CARBON 10K 5% 1/6W
R168	1-249-421-11	CARBON 2.2K 5% 1/6W
R169	1-249-414-11	CARBON 560 5% 1/6W
R170	1-215-436-00	CARBON 4.3K 5% 1/6W
R171	1-249-441-11	CARBON 100K 5% 1/6W
R172	1-249-410-11	CARBON 270 5% 1/6W
R173	1-249-423-11	(W21)...CARBON 3.3K 5% 1/6W
R174	1-249-435-11	CARBON 33K 5% 1/6W
R201	1-249-417-11	CARBON 1K 5% 1/6W
R202	1-249-435-11	CARBON 33K 5% 1/6W
R206	1-249-441-11	(W21)...CARBON 100K 5% 1/6W

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
R207	1-249-433-11	(W21)...CARBON	22K	5%	1/6W	
R209	1-249-417-11	CARBON	1K	5%	1/6W	
R215	1-249-417-11	CARBON	1K	5%	1/6W	
R216	1-249-417-11	CARBON	1K	5%	1/6W	
R217	1-249-423-11	CARBON	3.3K	5%	1/6W	
R218	1-249-429-11	CARBON	10K	5%	1/6W	
R219	1-249-429-11	CARBON	10K	5%	1/6W	
R220	1-249-423-11	(W250/W27)...CARBON	3.3K	5%	1/6W	
R221	1-249-428-11	(W250/W27)...CARBON	8.2K	5%	1/6W	
R222	1-247-822-00	(W250/W27)...CARBON	430	5%	1/6W	
R223	1-215-436-00	(W250/W27)...CARBON	4.3K	5%	1/6W	
R224	1-215-430-00	(W250/W27)...CARBON	2.4K	5%	1/6W	
R225	1-249-427-11	(W250/W27)...CARBON	6.8K	5%	1/6W	
R226	1-249-415-11	(W250/W27)...CARBON	680	5%	1/6W	
R227	1-249-429-11	CARBON	10K	5%	1/6W	
R228	1-249-421-11	CARBON	2.2K	5%	1/6W	
R229	1-249-430-11	(W21).....CARBON	12K	5%	1/6W	
R229	1-249-437-11	(W250/W27)...CARBON	47K	5%	1/6W	
R230	1-249-429-11	CARBON	10K	5%	1/6W	
R231	1-249-421-11	CARBON	2.2K	5%	1/6W	
R232	1-215-450-00	CARBON	16K	5%	1/6W	
R233	1-249-430-11	CARBON	12K	5%	1/6W	
R234	1-215-446-00	CARBON	11K	5%	1/6W	
R235	1-249-435-11	CARBON	33K	5%	1/6W	
R236	1-247-704-11	CARBON	220	5%	1/4W	
R237	1-215-440-00	CARBON	6.2K	5%	1/6W	
R238	1-249-441-11	CARBON	100K	5%	1/6W	
R239	1-249-433-11	CARBON	22K	5%	1/6W	
R240	1-249-441-11	CARBON	100K	5%	1/6W	
R241	1-249-441-11	CARBON	100K	5%	1/6W	
R242	1-249-425-11	CARBON	4.7K	5%	1/6W	
R243	1-249-425-11	CARBON	4.7K	5%	1/6W	
R244	1-215-479-00	CARBON	270K	5%	1/6W	
R245	1-249-404-00	CARBON	82	5%	1/6W	
R246	1-215-472-00	CARBON	130K	5%	1/6W	
R247	1-247-849-00	CARBON	5.6K	5%	1/6W	
R248	1-249-421-11	CARBON	2.2K	5%	1/6W	
R249	1-249-429-11	CARBON	10K	5%	1/6W	
R250	1-249-430-11	CARBON	12K	5%	1/6W	
R251	1-215-479-00	CARBON	270K	5%	1/6W	
R252	1-249-404-00	CARBON	82	5%	1/6W	
R253	1-215-472-00	CARBON	130K	5%	1/6W	
R254	1-247-849-00	CARBON	5.6K	5%	1/6W	
R255	1-249-417-11	CARBON	1K	5%	1/6W	
R256	1-249-441-11	CARBON	100K	5%	1/6W	
R257	1-247-887-00	CARBON	220K	5%	1/6W	
R258	1-249-431-11	CARBON	15K	5%	1/6W	
R259	1-247-887-00	CARBON	220K	5%	1/6W	
R260	1-249-427-11	CARBON	6.8K	5%	1/6W	
R261	1-249-421-11	CARBON	2.2K	5%	1/6W	
R262	1-247-887-00	CARBON	220K	5%	1/6W	

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
R263	1-215-466-00	CARBON	75K	5%	1/6W	
R264	1-249-430-11	CARBON	12K	5%	1/6W	
R265	1-249-441-11	CARBON	100K	5%	1/6W	
R266	1-249-408-11	CARBON	180	5%	1/6W	
R267	1-249-429-11	CARBON	10K	5%	1/6W	
R268	1-249-421-11	CARBON	2.2K	5%	1/6W	
R269	1-249-414-11	CARBON	560	5%	1/6W	
R270	1-215-436-00	CARBON	4.3K	5%	1/6W	
R271	1-249-441-11	CARBON	100K	5%	1/6W	
R272	1-249-410-11	CARBON	270	5%	1/6W	
R273	1-249-423-11	(W21)...CARBON	3.3K	5%	1/6W	
R274	1-249-435-11	CARBON	33K	5%	1/6W	
R301	1-247-704-11	CARBON	220	5%	1/4W	
R302	1-247-704-11	CARBON	220	5%	1/4W	
R303	1-249-429-11	(W250/W27)...CARBON	10K	5%	1/6W	
R304	1-249-417-11	(W250/W27)...CARBON	1K	5%	1/6W	
R305	1-249-417-11	CARBON	1K	5%	1/6W	
R306	1-249-431-11	CARBON	15K	5%	1/6W	
R307	1-247-704-11	CARBON	220	5%	1/4W	
R308	1-247-704-11	CARBON	220	5%	1/4W	
R309	1-249-425-11	CARBON	4.7K	5%	1/6W	
R313	1-249-404-00	CARBON	82	5%	1/6W	
R314	1-247-688-11	CARBON	10	5%	1/4W	
R315	1-249-433-11	CARBON	22K	5%	1/6W	
R316	1-249-433-11	CARBON	22K	5%	1/6W	
R317	1-249-429-11	CARBON	10K	5%	1/6W	
R318	1-249-429-11	CARBON	10K	5%	1/6W	
R319	1-249-427-11	CARBON	6.8K	5%	1/6W	
R320	1-247-706-11	CARBON	330	5%	1/4W	
R321	1-249-413-11	CARBON	470	5%	1/6W	
R322	1-249-433-11	CARBON	22K	5%	1/6W	
R323	1-249-441-11	CARBON	100K	5%	1/6W	
R325	1-249-417-11	CARBON	1K	5%	1/6W	
R326	1-215-460-00	(W21).....METAL	43K	1%	1/6W	
R326	1-215-469-00	(W250/W27)...METAL	100K	1%	1/6W	
R328	1-247-700-11	(W21).....CARBON	100	5%	1/4W	
R329	1-247-700-11	(W21).....CARBON	100	5%	1/4W	
R330	1-249-438-11	(W21).....CARBON	56K	5%	1/6W	
R331	1-249-438-11	(W21).....CARBON	56K	5%	1/6W	
R401	1-247-717-11	CARBON	2.2K	5%	1/4W	
R402	1-247-717-11	CARBON	2.2K	5%	1/4W	
R403	1-247-717-11	CARBON	2.2K	5%	1/4W	
R404	1-247-717-11	CARBON	2.2K	5%	1/4W	
R405	1-249-425-11	CARBON	4.7K	5%	1/6W	
R406	1-249-422-11	CARBON	2.7K	5%	1/6W	
R407	1-249-420-11	CARBON	1.8K	5%	1/6W	
R408	1-249-420-11	CARBON	1.8K	5%	1/6W	
R409	1-249-408-11	CARBON	180	5%	1/6W	
R410	1-249-420-11	CARBON	1.8K	5%	1/6W	
R411	1-249-408-11	CARBON	180	5%	1/6W	

ELECTRICAL PARTS

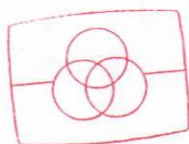
Ref.No.	Part No.	Description			
R412	1-249-425-11	CARBON	4.7K	5%	1/6W
R413	1-249-437-11	CARBON	47K	5%	1/6W
R414	1-249-437-11	CARBON	47K	5%	1/6W
R415	1-249-429-11	CARBON	10K	5%	1/6W
R416	1-249-429-11	CARBON	10K	5%	1/6W
R417	1-249-437-11	CARBON	47K	5%	1/6W
R418	1-249-437-11	CARBON	47K	5%	1/6W
R419	1-247-887-00	CARBON	220K	5%	1/6W
R420	1-249-437-11	CARBON	47K	5%	1/6W
R421	1-249-429-11	CARBON	10K	5%	1/6W
R422	1-249-437-11	CARBON	47K	5%	1/6W
R423	1-249-437-11	CARBON	47K	5%	1/6W
R424	1-249-427-11	CARBON	6.8K	5%	1/6W
R425	1-249-435-11	CARBON	33K	5%	1/6W
R426	1-249-437-11	CARBON	47K	5%	1/6W
R427	1-249-425-11	CARBON	4.7K	5%	1/6W
R428	1-249-437-11	CARBON	47K	5%	1/6W
R429	1-249-429-11	CARBON	10K	5%	1/6W
R430	1-249-413-11	(W21).....CARBON	470	5%	1/6W
R430	1-249-417-11	(W250/W27)....CARBON	1K	5%	1/6W
R431	1-249-413-11	(W21).....CARBON	470	5%	1/6W
R431	1-249-417-11	CARBON	1K	5%	1/6W
R432	1-249-413-11	(W21).....CARBON	470	5%	1/6W
R432	1-249-417-11	CARBON	1K	5%	1/6W
R433	1-249-425-11	CARBON	4.7K	5%	1/6W
R434	1-249-425-11	CARBON	4.7K	5%	1/6W
R435	1-249-429-11	CARBON	10K	5%	1/6W
R436	1-215-430-00	CARBON	2.4K	5%	1/6W
R437	1-215-402-00	CARBON	160	5%	1/6W
R438	1-249-417-11	CARBON	1K	5%	1/6W
R439	1-249-417-11	CARBON	1K	5%	1/6W
RV101	1-230-630-11	RES, ADJ, CARBON	10K		
RV102	1-230-630-11	RES, ADJ, CARBON	10K		
RV103	1-230-630-11	RES, ADJ, CARBON	10K		
RV104	1-228-670-00	RES, VAR, SLIDE	20K(REC LEVEL (LEFT))		
RV201	1-230-630-11	RES, ADJ, CARBON	10K		
RV202	1-230-630-11	RES, ADJ, CARBON	10K		
RV203	1-230-630-11	RES, ADJ, CARBON	10K		
RV204	1-228-670-00	RES, VAR, SLIDE	20K(REC LEVEL (RIGHT))		
RV401	1-228-991-00	RES, ADJ, CARBON	2.2K		
RV402	1-228-990-00	RES, ADJ, CARBON	1K		
RV403	1-228-991-00	RES, ADJ, CARBON	2.2K		
RV404	1-228-990-00	RES, ADJ, CARBON	1K		
RY301	1-515-519-00	RELAY			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
S302	1-570-976-11	(W250/W27)...SWITCH, PUSH (2 KEY) (DOLBY NR)
S303	1-570-980-11	(W250/W27)...SWITCH, PUSH (2 KEY)(TAPE)
S304	1-570-977-11	(W21)...SWITCH, PUSH (3 KEY)(TAPE,DOLBY NR)
S401	1-570-978-11	SWITCH, PUSH (1 KEY)(DUBBING SPEED)
S402	1-570-103-21	SWITCH, PUSH (1 KEY)(POWER)
S901	1-571-036-11	SWITCH, LEAF (DETECTION SW)
S902	1-570-715-11	SWITCH, LEAF (MOTOR)
S903	1-570-716-11	SWITCH, LEAF (FWD)
S904	1-570-715-11	SWITCH, LEAF (MOTOR)
S905	1-570-716-11	SWITCH, LEAF (FWD)
S906	1-571-037-11	SWITCH, LEAF (REC SW)
SPK101	1-235-186-00	(W250/W27)...ENCAPSULATED COMPONENT
SPK201	1-235-186-00	(W250/W27)...ENCAPSULATED COMPONENT
T301	1-433-303-11	TRANSFORMER, BIAS OSCILLATION
T901	1-448-804-11	(W250:US,Canadian/W21/W27) ...TRANSFORMER, POWER
T901	1-448-805-11	(W250:AEP,UK)...TRANSFORMER, POWER
T901	1-448-806-11	(W250:E).....TRANSFORMER, POWER
VS901	1-570-307-11	(W250:E)...SWITCH, VOLTAGE CHANGE

ACCESSORY & PACKING MATERIAL

Part No.	Description
1-526-565-00	(W250:E)...AC PLUG ADAPTOR
1-558-787-11	CORD, CONNECTION
3-332-461-01	(W250:US)...INDIVIDUAL CARTON
3-332-461-11	(W250:AEP,UK,E,Canadian) ...INDIVIDUAL CARTON
3-332-461-21	(W27).....INDIVIDUAL CARTON
3-332-461-31	(W21).....INDIVIDUAL CARTON
3-332-462-01	CUSHION
3-701-630-00	BAG, POLYETHYLENE
3-703-450-01	(W250:US/W21/W27)...INSTRUCTION
3-703-680-00	(W250:US/W21/W27) ...LABEL, CAUTION, SUB, NEW UL
3-765-918-11	(W250:AEP,UK,E,Canadian)...MANUAL, INSTRUCTION (ENGLISH,FRENCH,SPANISH)
3-765-918-21	(W250:US)...MANUAL, INSTRUCTION (ENGLISH)
3-765-918-41	(W250:AEP)...MANUAL, INSTRUCTION (GERMAN,DUTCH,SWEDISH,ITALIAN)
3-765-919-21	(W21)...MANUAL, INSTRUCTION (ENGLISH)
3-765-921-21	(W27)...MANUAL, INSTRUCTION (ENGLISH)
4-858-078-00	SHEET, PROTECTION



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The components identified by shading and mark **A** are critical for safety. Replace only with part number specified.

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

TROUBLE CHECKS

Should any problem persist after you have made these checks, consult your nearest Sony service facility.

Before proceeding with these trouble checks, first check these basic points:

- The power cord must be firmly connected.
- Amplifier connections must be firmly made.

	Trouble	Cause and/or remedy
TAPE OPERATION BUTTONS AND TAPE TRANSPORT	The tape does not run when the operation button is pressed.	The cassette is not properly inserted.
		The cassette holder is not properly closed.
		The II button is depressed. ➡ Depress the II button again to release the pause mode.
	The transport noise seems excessively loud in rewind or fast forward mode.	No trouble. This situation depends upon the cassette used.
	The automatic shut-off mechanism activates before the end of the tape.	The cassette is defective.
	The ● button does not activate.	No cassette is in the holder.
		The cassette tab has been removed. ➡ Cover the hole with plastic tape.
	The fast forward or rewind mode does not shut off automatically.	No trouble. Press ■ ▲ to shut off the fast forward or rewind mode.
RECORDING AND PLAYBACK	Recording or playback cannot be made or there is a decrease in sound level.	The heads are dirty.
		The connections are not made properly.
		The input selector of the amplifier is not set to the correct position.
	Excessive wow and flutter or drop out	The heads, capstans or pinch rollers are dirty.
	Incomplete erasure	The erase head is dirty.
	Increase of noise or erasure	Magnetic build-up on the head. ➡ Demagnetize the head.
	Unbalanced tone in higher frequencies	The DOLBY NR switch is not set to the correct position. ➡ During playback, set the switch to the same position used in recording.
		The TAPE select switches are not set to the correct position during playback on deck B.
NOISE	A hum is heard	The deck is placed directly on or under the amplifier. ➡ Move the deck away from the amplifier.
	Noise is recorded	Recording is made near a television set or a color monitor. ➡ Move the deck away from the television set or color monitor.