

TC-TX1

SERVICE MANUAL

*AEP Model
UK Model
E Model
Australian Model*



TC-TX1 is cassette deck section in CMT-T1.

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

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	TCM-190RB52C

SPECIFICATIONS

- Recording system
4-track 2-channel stereo
- Frequency response
(DOLBY NR OFF)
50 – 15,000 Hz (± 3 dB), using
Sony TYPE IV cassette
50 – 14,000 Hz (± 3 dB), using
Sony TYPE II cassette
50 – 13,000 Hz (± 3 dB), using
Sony TYPE I cassette
- Wow and flutter
 ± 0.2 % W.PEAK (DIN)
- Dimensions
Approx. 142 x 125 x 205 mm
(w/h/d) ($5\frac{5}{8}$ x 5 x $8\frac{1}{8}$ inches)
incl. projecting parts and
controls
- Mass
Approx. 2 kg (4 lb 7 oz)
- Supplied accessory
Flat cord (1)

Design and specifications are subject to change without notice.



STEREO CASSETTE DECK
SONY®

TABLE OF CONTENTS

<i>Section</i>	<i>Title</i>	<i>Page</i>
1. GENERAL		3
2. DISASSEMBLY		
2-1.	Power Board, Front Panel Removal	4
2-2.	Mechanism Deck Removal	4
2-3.	Capstan Motor, Reel Motor Removal	5
2-4.	Head, Pinch Roller Removal	5
3. ADJUSTMENTS		
3-1.	Mechanical Adjustments	6
3-2.	Electrical Adjustments	6
4. EXPLANATION OF IC TERMINALS		9
5. DIAGRAMS		
5-1.	Printed Wiring Boards	10
5-2.	Schematic Diagram	13
6. EXPLODED VIEWS		
6-1.	Chassis Section	17
6-2.	Front Panel Section	18
6-3.	Mechanism Section-1	19
6-4.	Mechanism Section-2	20
7. ELECTRICAL PARTS LIST		21

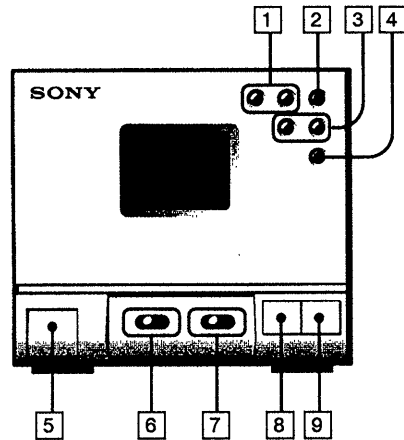
SAFETY-RELATED COMPONENT WARNING!!

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.

SECTION 1 GENERAL

This section is extracted from instruction manual.

INDEX TO PARTS AND CONTROLS



- 1 ► (front side play) and ◄ (reverse side play) buttons
- 2 ■ (STOP) button
- 3 AMS/ ►► (fast rightward) and ◄◄ (fast leftward) buttons
- 4 || (pause) button
- 5 ▲ EJECT button
- 6 DOLBY NR OFF/ON switch
- 7 DIRECTION ⇄/↻ switch
- 8 ● REC button
- 9 CD SYNC button

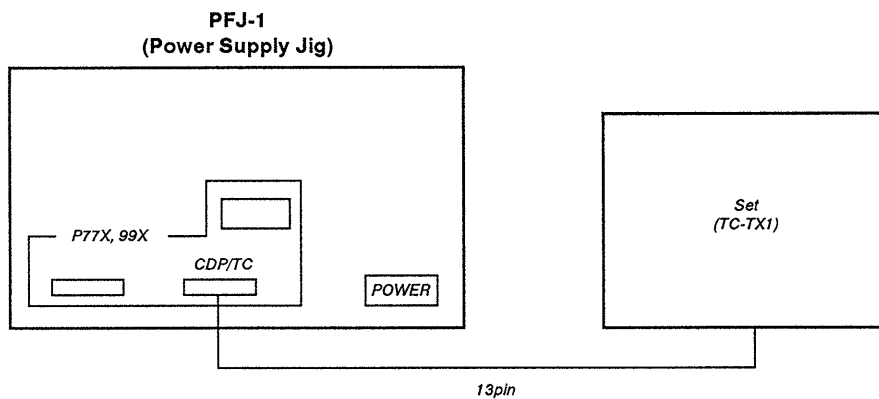
SERVICING NOTE

● Power Supplied While servicing

This unit does not have its own power supply. In this series, since power is supplied during operation from the HCD-T1 (CD/tuner/Pre Amp), you must connect the TC-TX1 to the HCD-T1 (CD/tuner/Pre Amp) when carrying out service or repairs that require power be supplied. You can also supply power by attaching the "CDP/TC" connector from power supply jig (PFJ-1). (See the drawing below)

● Power Supply Method using jig

Connect the set and jig as shown in the diagram below and turn on the power switch.



● Test Mode

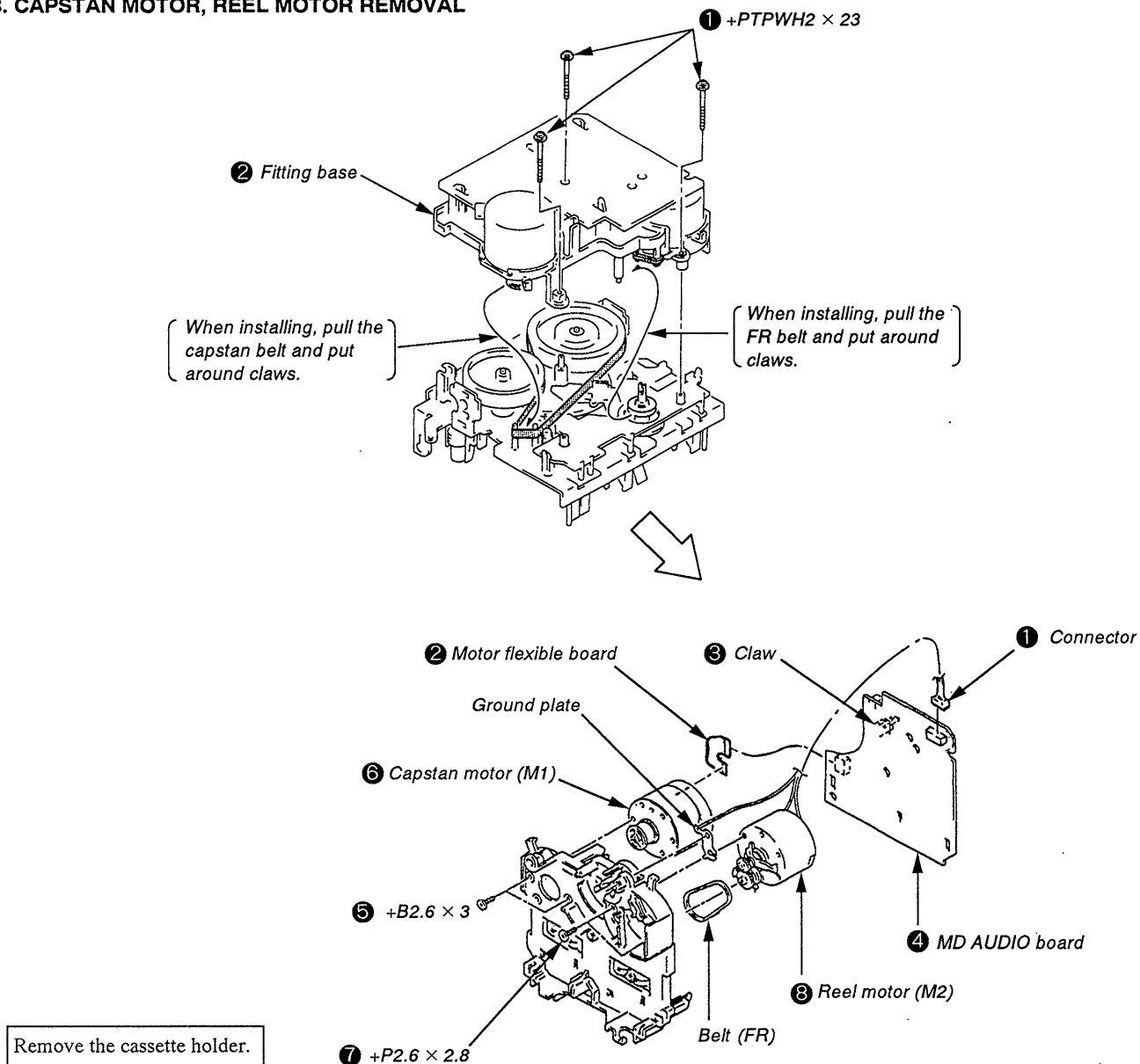
When using the (PFJ-1) power supply jig, always make sure to first set test mode prior to any servicing or repairs. (The set will not function unless you set it in test mode.)

Procedure :

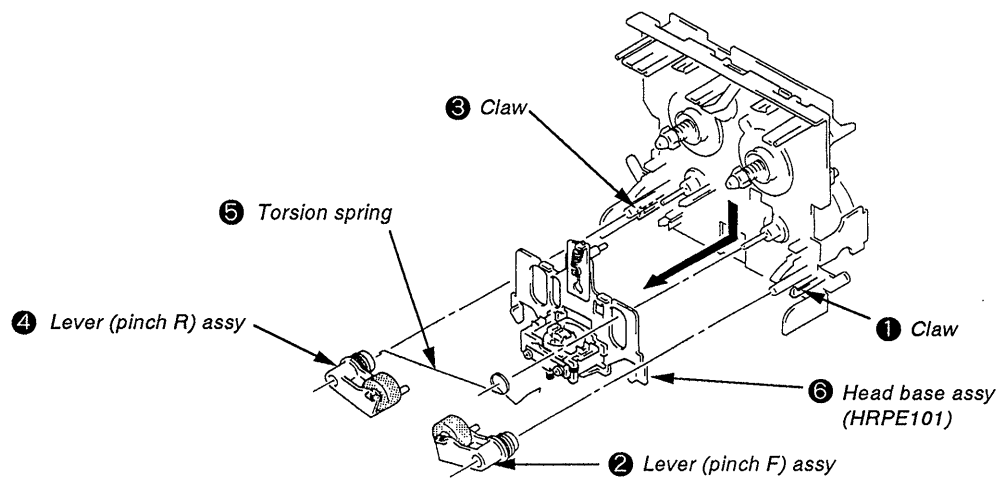
- (1) Insert the CN-710 shorting plug and set the power switch to ON.
- (2) To cancel test mode, set the power switch to OFF and extract the shorting plug.
- (3) After servicing or repairs are complete, extract the shorting plug.

— 4 —

2-3. CAPSTAN MOTOR, REEL MOTOR REMOVAL



2-4. HEAD, PINCH ROLLER REMOVAL



SECTION 3 ADJUSTMENTS

3-1. MECHANICAL ADJUSTMENTS

PRECAUTION

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

record/playback/erase head	pinch roller
rubber belts	capstan
idlers	
- Demagnetize the record/playback head with a head demagnetizer. (Head demagnetizer do not approach for the erase head.)
- Do not use a magnetized screwdriver for the adjustment.
- 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.

Torque Measurement

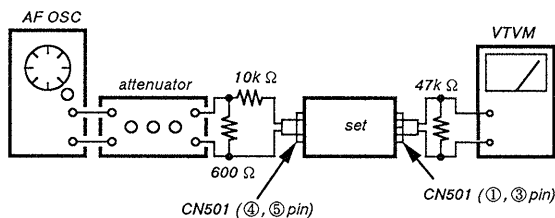
Torque	Torque meter	Meter reading
Forward	CQ-102C	30 to 60g • cm (0.42 to 0.83oz • inch)
Forward back tension	CQ-102C	1 to 5g • cm (0.014 to 0.069 oz • inch)
Reverse	CQ-102RC	30 to 60g • cm (0.42 to 0.83 oz • inch)
Reverse back tension	CQ-102RC	1 to 5g • cm (0.014 to 0.069 oz • inch)
FF/REW	CQ-201B	65 to 90g • cm (0.91 to 1.25 oz • inch)

3-2. ELECTRICAL ADJUSTMENTS

PRECAUTION

- The adjustment should be performed in the publication.
(Be sure to make playback adjustment at first.)
 - The adjustments and measurement should be performed for both L-CH and R-CH.
 - Switch position

DOLBY NR switch	: OFF
DIRECTION MODE switch	: ⇄
- Record Mode —



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

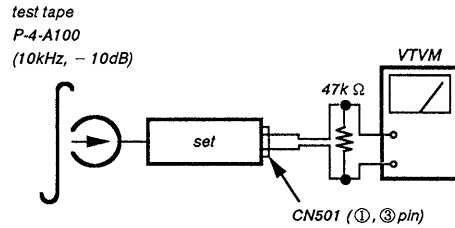
0dB=0.775V

Record/Playback Head Azimuth Adjustment

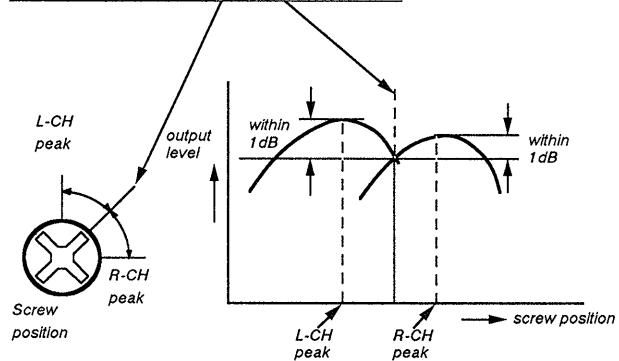
- Carry out servicing or repairs from the REVERSE direction first.

Procedure :

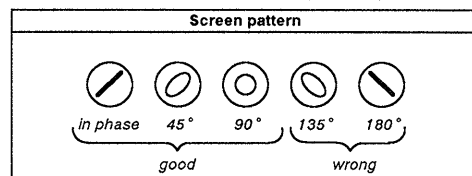
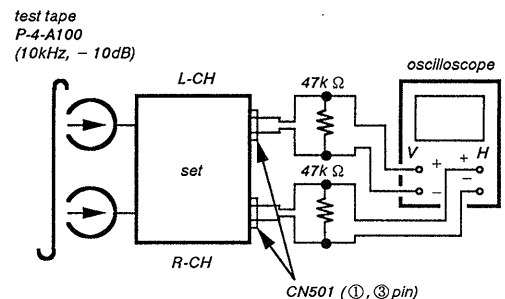
- Reverse Playback Mode



- 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.

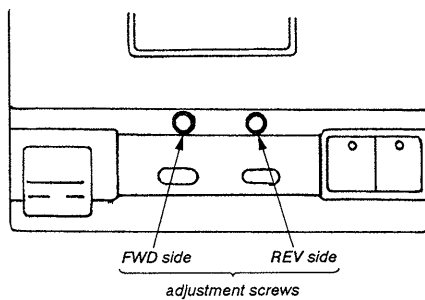


- Playback Mode



- Change the forward playback mode and repeat the steps 1 to 3.
- After the adjustment, lock the adjustment screws with suitable locking compound.

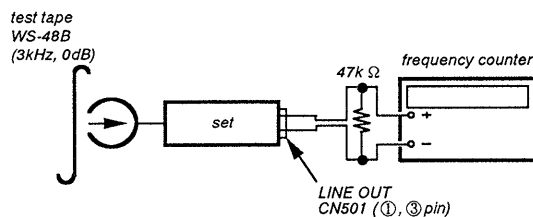
Adjustment Location : – record/playback head –



Tape Speed Adjustment

Procedure :

– Playback Mode –



1. Set to forward playback mode.
2. Adjust RV71 so that the frequency counter reading becomes $3,000 \pm 15\text{Hz}$.

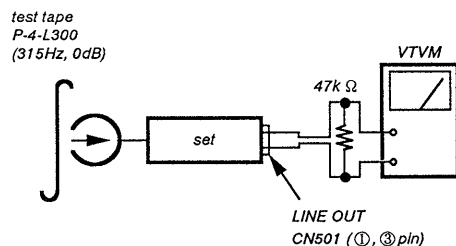
Frequency difference between the beginning and the end of the tape should be within 3%.

Adjustment Location : MD AUDIO board. (See page 8)

Playback Level Adjustment

Procedure :

– Playback Mode –



Adjust RV11(L-CH) and RV21(R-CH) so the VTVM reading becomes the adjustment limits below.

Adjustment Value : – $7.7 \pm 0.5\text{dB}$ (0.301 to 0.338V)

Level difference between channels : within 0.3dB

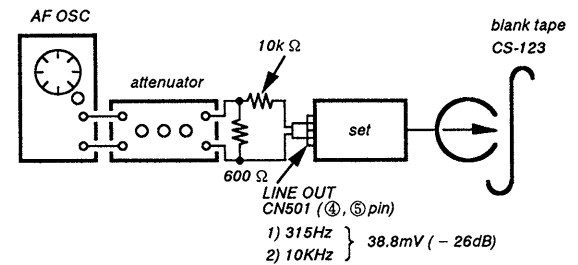
Confirm the playback level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : MD AUDIO board. (See page 8)

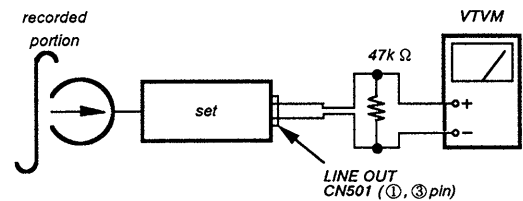
Record Bias Adjustment

Procedure :

1. Record Mode



2. Playback Mode



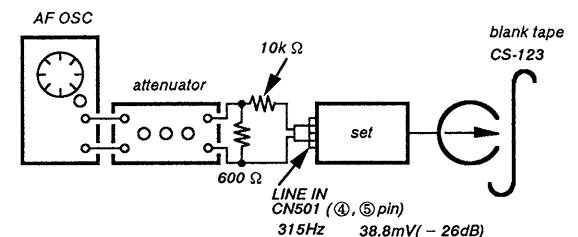
Confirm that the 10kHz playback output is $0 \pm 0.5\text{dB}$ relative to the 315Hz output. If necessary, adjust RV12 (L-CH), RV22 (R-CH) and repeat the steps given above.

Adjustment Location : MD AUDIO board. (See page 8)

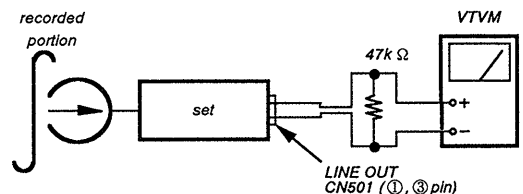
Record Level Adjustment

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.

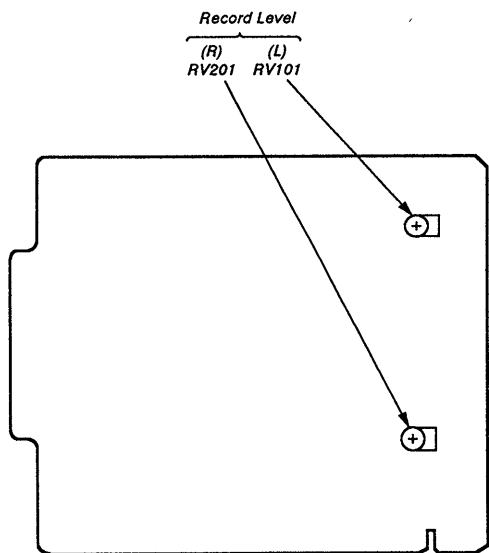
Adjustment Value :

TAPE-1 OUT level : – $26 \pm 0.5\text{dB}$ (36.7 to 41.1mV)

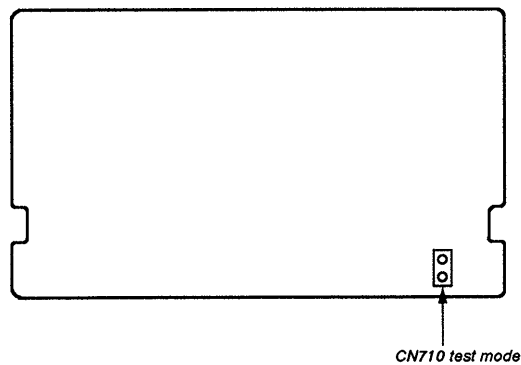
Adjustment Location : AUDIO board. (See page 8)

— Adjustment Parts Location Diagrams —

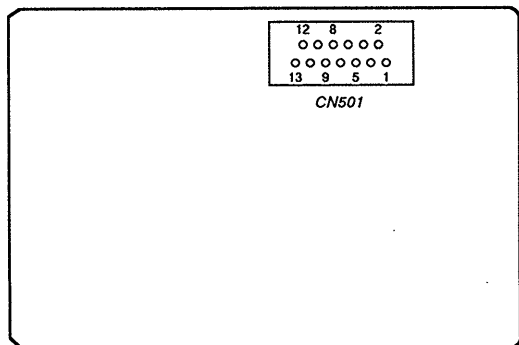
【AUDIO BOARD】 (Component side)



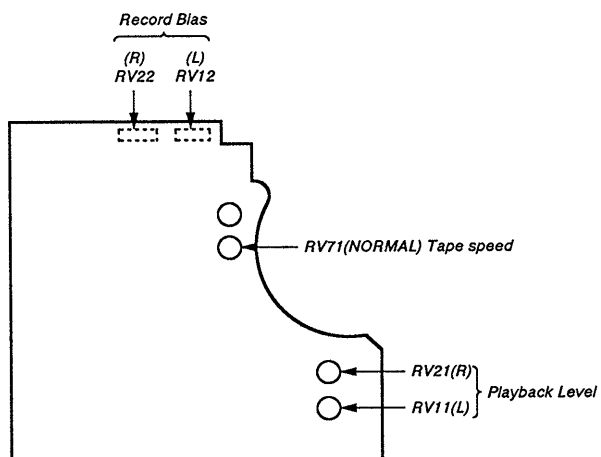
【SYSTEM CONTROL BOARD】 (Component side)



【POWER BOARD】 (Component side)



【MD AUDIO BOARD】 (Conductor side)



SECTION 4

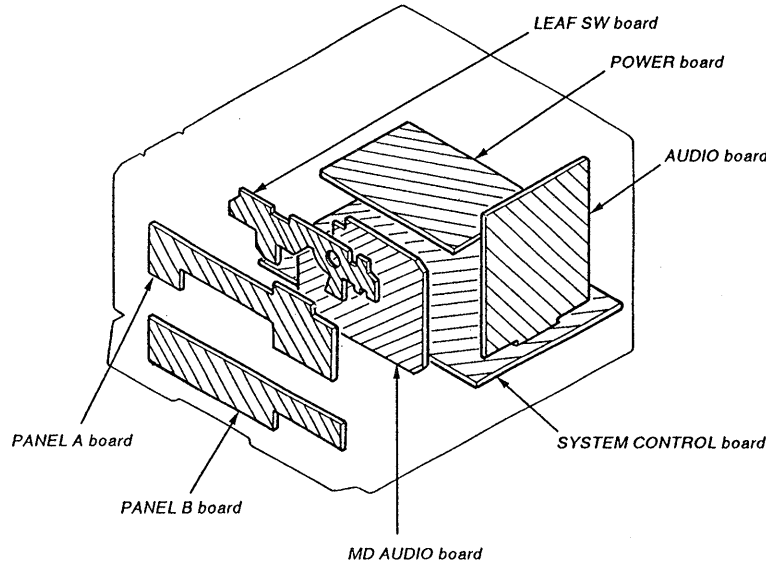
EXPLANATION OF IC TERMINALS

IC702 TM87C846N-4220

Pin No.	Pin name	I/O	Description
1	LMUT	O	LINE mute ON/OFF control terminal.
2	AMUT	O	AUDIO mute ON/OFF control terminal.
3	REC/PB	O	REC/PB select terminal.
4	DOLBY	O	DOLBY NR ON/OFF control terminal.
5	RMUT	O	REC mute ON/OFF control terminal.
6	BIAS	O	REC BIAS ON/OFF control terminal.
7	RELAY	O	RELAY ON/OFF control terminal.
8	NC	—	Not used. (GND)
9	FWD	O	FWD LED drive.
10	REV	O	REV LED drive.
11	PAU	O	PAUSE LED drive.
12	REC	O	REC LED drive.
13	CDS	O	CD SYNC LED drive.
14	NC	—	Not used. (GND)
15	NC	—	Not used. (GND)
16	CAPM	O	Capstan motor drive output.
17	TEST	—	Test terminal. (GND)
18	RESET	I	Reset signal terminal.
19	XIN	I	System clock (4.0MHz)
20	XOUT	O	System clock (4.0MHz)
21	GND	—	Power supply. (GND)
22	VREF	—	VOLTAGE REFERANCE. (+5V)
23	KEY1	I	STOP/FWD/REV/KEY input terminal.
24	KEY2	I	PAUSE/FF/REW/KEY input terminal.
25	KEY3	I	REC/CD SYNC/DOLBY/DIRECTION KEY input terminal.
26	HALF	I	HALF SW detect input. “HALF” : +2.5V
27	SHUT	I	Reel table signal input terminal.
28	AMS IN	I	AMS signal input terminal.
29	RM —	O	Reel motor control output.
30	RM+	O	Reel motor control output.
31	STOP	I	STOP detect input. “H” : STOP
32	BIN	I	AU-BUS input terminal.
33	BOUT	O	AU-BUS output terminal.
34	NC	—	Not used. (GND)
35	NC	—	Not used. (GND)
36	NC	—	Not used. (GND)
37	TEST	I	Test mode terminal. “L” : TEST MODE
38	POWER	O	Control output to power IC (IC501).
39	NC	—	Not used. (GND)
40	NC	—	Not used. (GND)
41	NC	—	Not used. (GND)
42	+5V	—	Power supply. (GND)

SECTION 5
DIAGRAMS

● CIRCUIT BOARD LOCATION



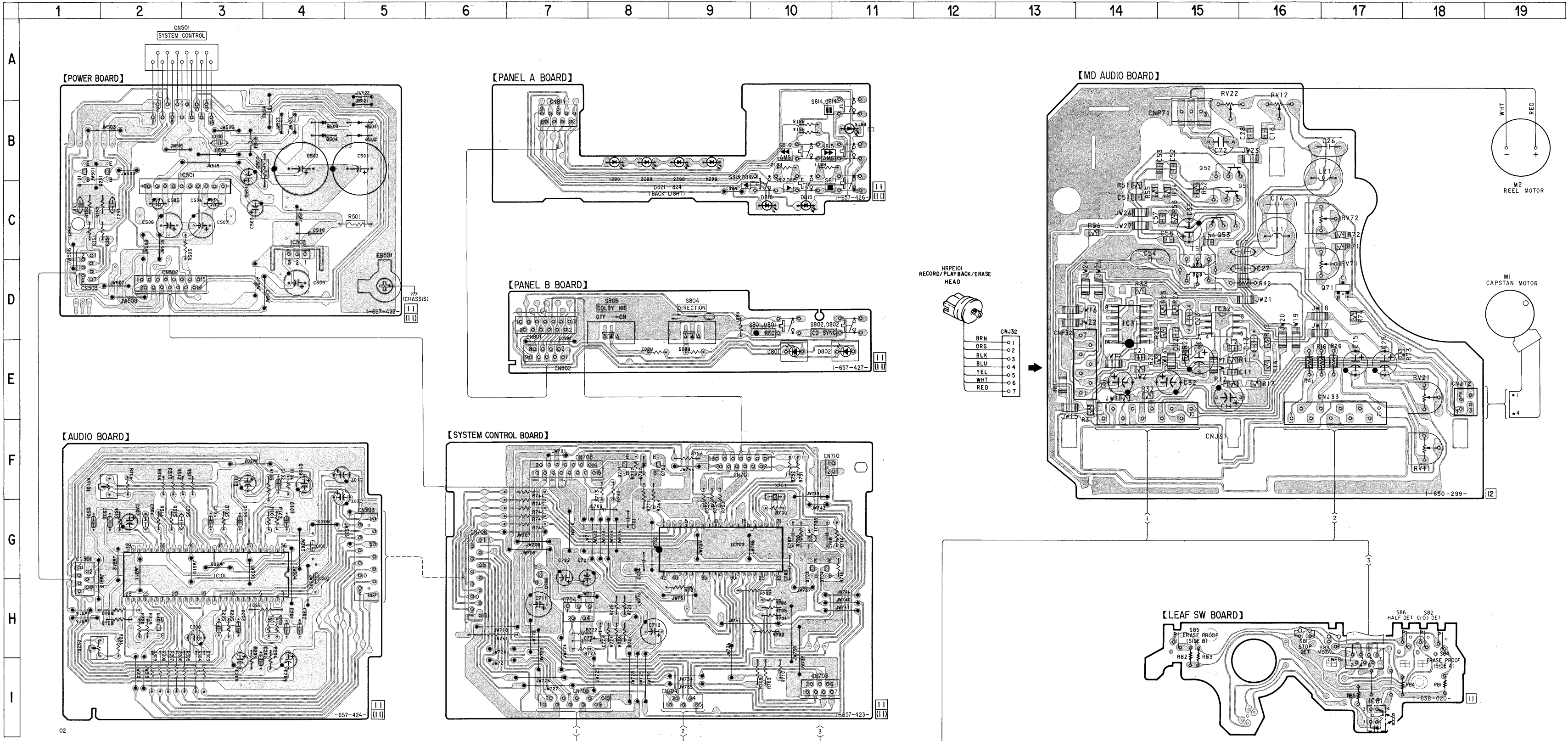
● SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D501	B - 5	IC502	C - 4
D502	B - 5	IC702	G - 9
D503	B - 4	IC703	G - 10
D504	B - 4	IC704	H - 7
D506	B - 3		
D702	F - 8	Q51	B - 15
D801	E - 10	Q52	C - 15
D802	E - 11	Q53	C - 15
D814	B - 11	Q71	D - 17
D815	C - 10	Q101	B - 1
D816	C - 10	Q201	B - 2
D821	B - 8	Q301	H - 2
D822	B - 8	Q701	F - 8
D823	B - 9	Q702	F - 8
D824	B - 9	Q703	G - 10
IC31	D - 14	Q704	G - 10
IC32	D - 15	Q705	G - 7
IC81	I - 17		
IC101	H - 3		
IC501	C - 3		

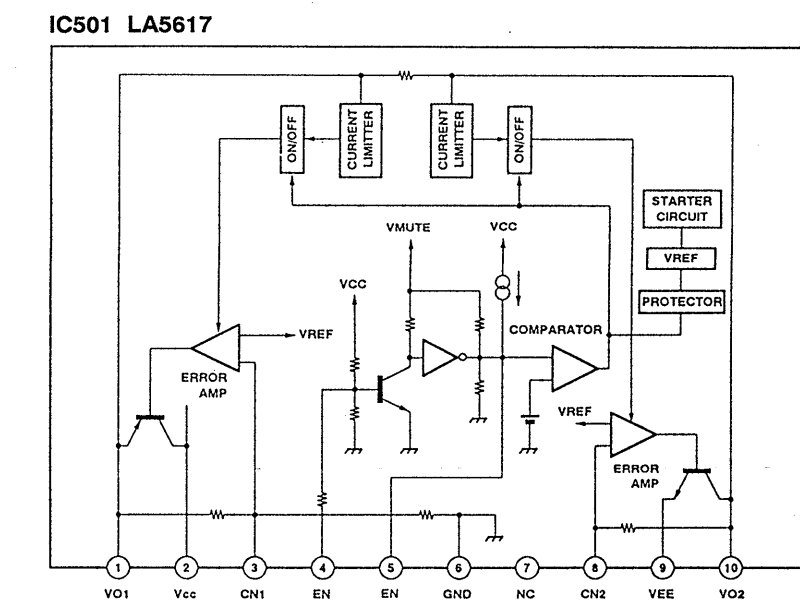
Note:

- : parts extracted from the component side.
- ▨ : Pattern on the side which is seen.

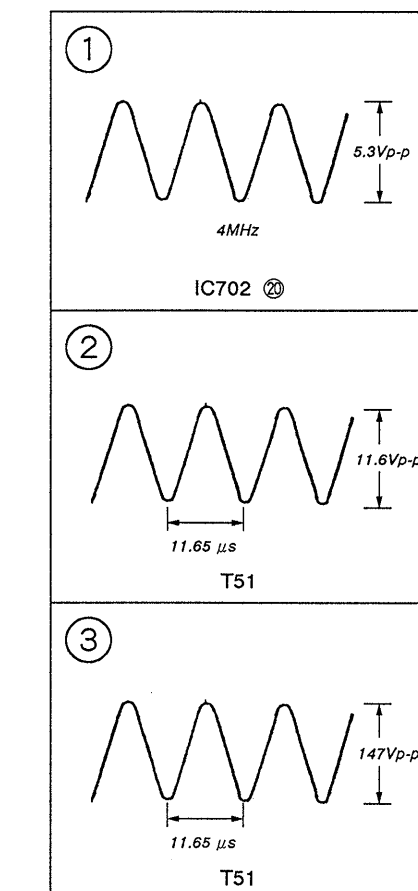
5-1. PRINTED WIRING BOARDS



- IC BLOCK DIAGRAMS



- **WAVEFORMS**

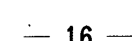


Note :

- 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 $1/4\text{W}$ or less unless otherwise specified.
- Δ : internal component.
-  : fusible resistor.

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

-  : B+ Line
-  : B - Line
-  : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
no mark : PB
() : 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.
 : PB
 : REC



SECTION 6

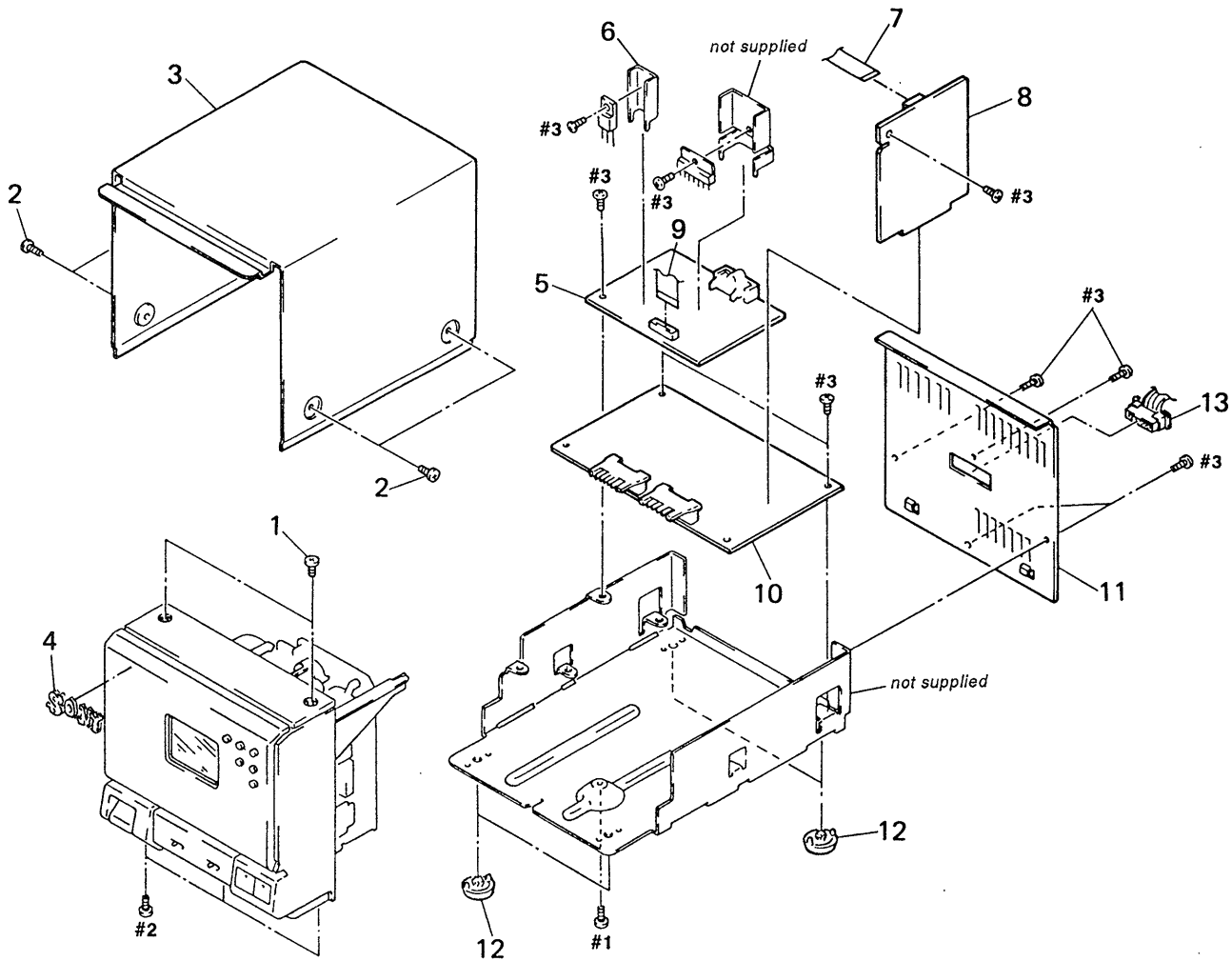
EXPLODED VIEWS

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.

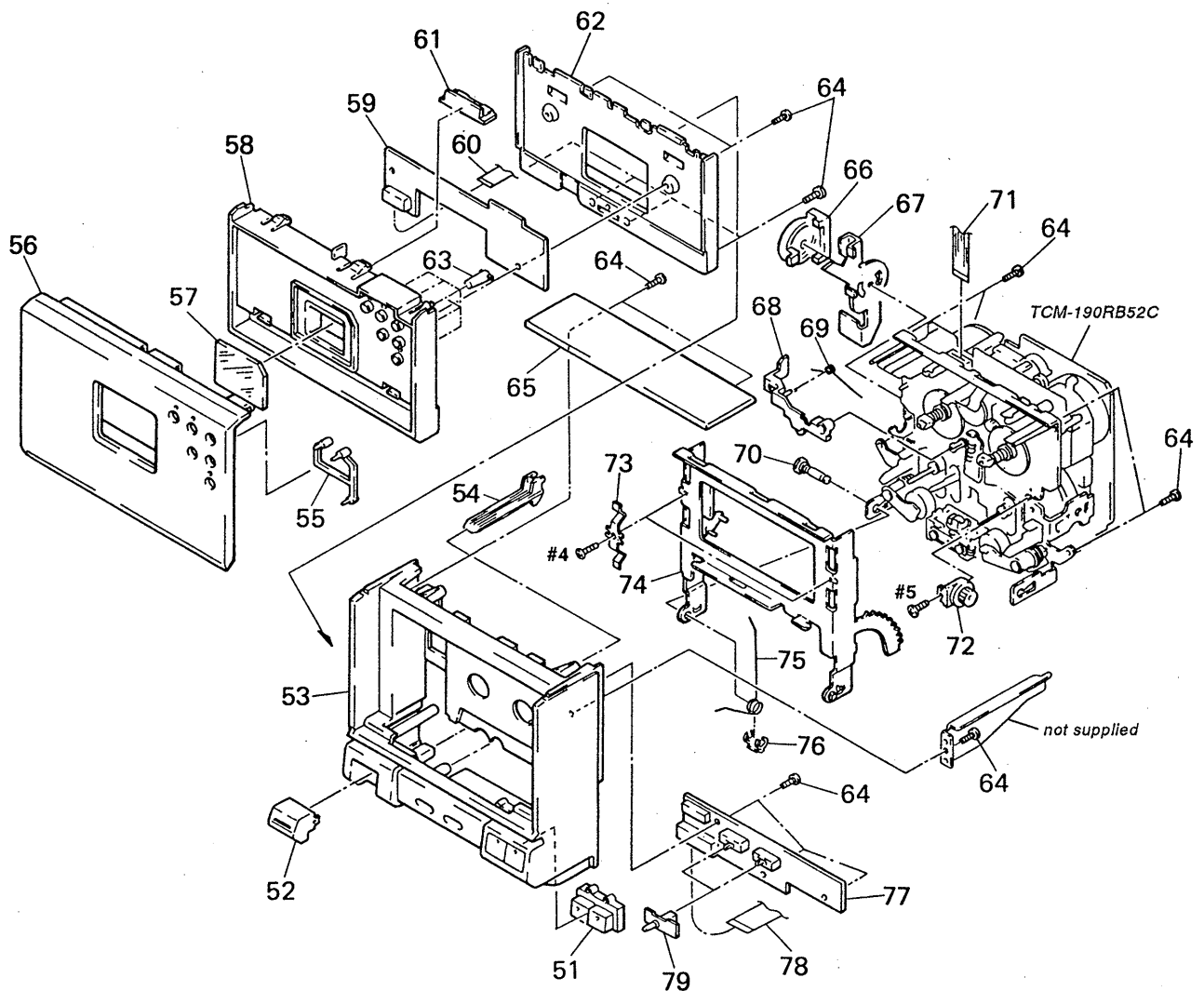
6-1. CHASSIS SECTION



<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
1	4-975-365-01	SCREW (ALUMINUM)
2	3-704-366-61	SCREW (CASE)
3	4-975-358-11	CASE
4	4-942-636-21	EMBLEM (NO.3.5), SONY
* 5	A-2007-467-A	POWER BOARD, COMPLETE
* 6	3-309-144-21	HEAT SINK
7	1-769-882-11	WIRE (FLAT TYPE) (7 CORE)

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
* 8	A-2007-437-A	AUDIO BOARD, COMPLETE	
9	1-773-008-11	WIRE (FLAT TYPE) (15 CORE)	
* 10	A-2007-466-A	SYSTEM CONTROL BOARD, COMPLETE	
11	3-925-586-12	PANEL, BACK	
12	4-965-822-31	FOOT	
13	1-775-734-11	CORD, CONNECTION 13P	

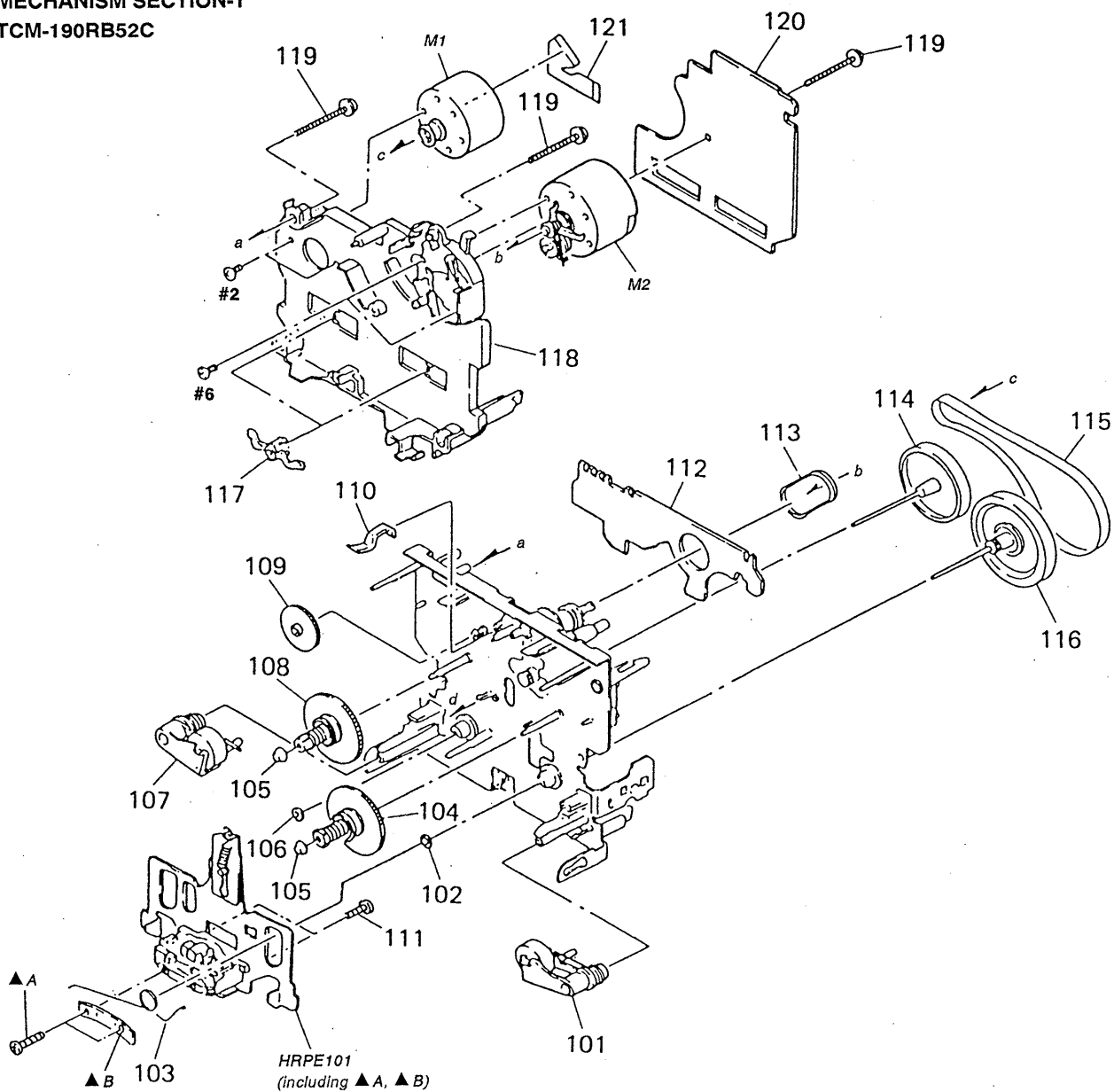
6-2. FRONT PANEL SECTION



Ref.No.	Part No.	Description	Remark
51	X-3370-555-1	BUTTON (REC) ASSY	
52	3-925-580-01	BUTTON (EJECT)	
53	3-925-575-01	PANEL (MOLD), FRONT	
* 54	3-925-916-01	SLIDER (EJECT)	
55	3-925-662-01	INDICATOR (PLAY)	
56	3-925-574-01	PANEL (AL), FRONT	
57	4-975-345-11	PLATE (WINDOW), INDICATION	
58	3-925-577-01	LID, CASSETTE	
* 59	1-657-426-11	PANEL A BOARD	
60	1-775-429-11	WIRE (FLAT TYPE) (9 CORE)	
61	3-925-584-01	INDICATOR (WINDOW)	
* 62	3-925-578-01	LID, CASSETTE (REAR)	
63	3-925-581-01	BUTTON (PLAY)	
64	4-951-620-01	SCREW (2.6×8), +BVTP	
65	3-925-576-01	PANEL, TOP	

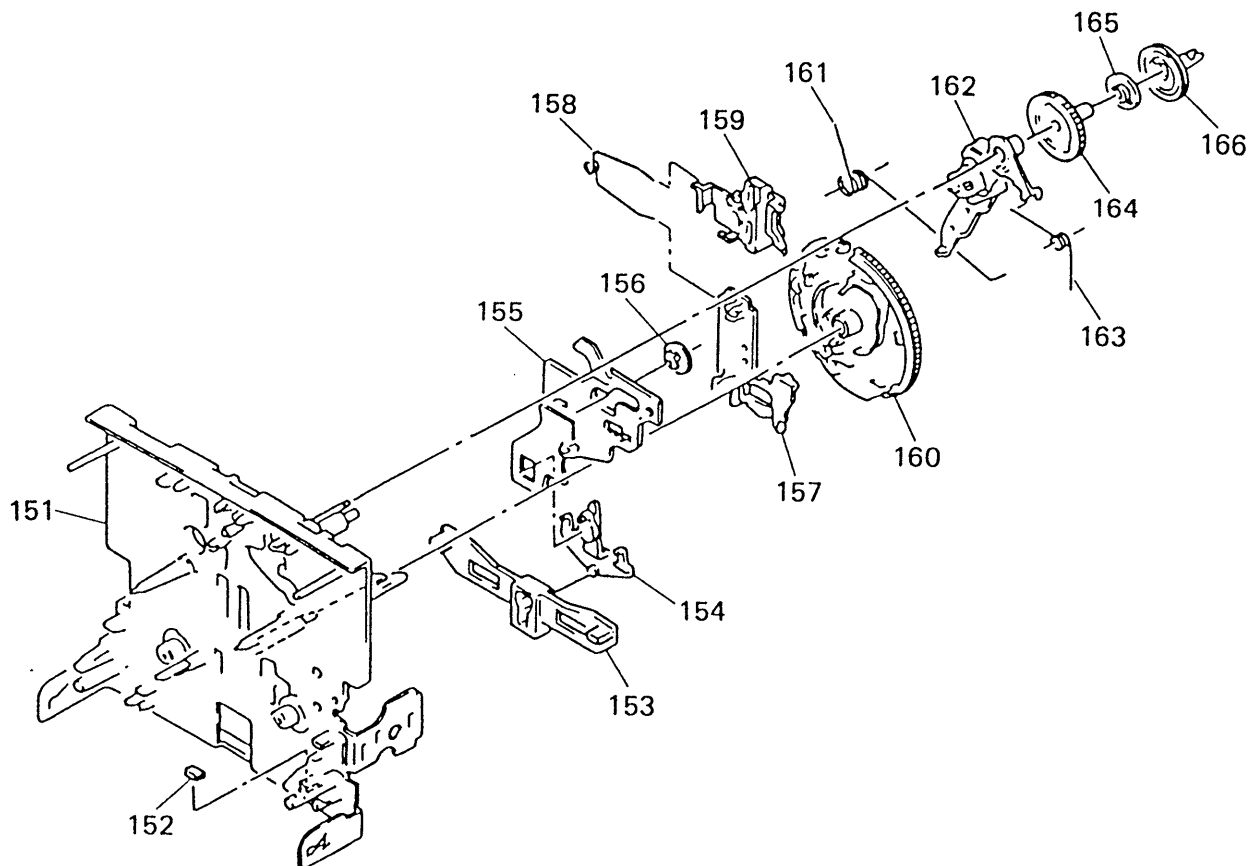
Ref.No.	Part No.	Description	Remark
66	3-354-957-01	JOINT (LOCK LEVER)	
* 67	3-354-953-01	LEVER (LOCK LEVER L)	
68	3-926-195-01	LEVER (EJ-L)	
69	3-354-961-01	SPRING (EJ SAFTY SPRING L)	
70	3-367-721-01	SHAFT (FULCRUM SHAFT)	
71	1-769-882-11	WIRE (FLAT TYPE) (7 CORE)	
72	3-354-963-21	DAMPER	
73	3-340-137-01	SPRING, CASSETTE RETAINER	
74	X-3362-857-1	HOLDER (L) ASSY, CASSETTE	
75	3-354-959-01	SPRING (LOADING L), TORSION	
76	3-367-720-01	RING (W), RETAINING	
* 77	1-657-427-11	PANEL B BOARD	
78	1-775-428-11	WIRE (FLAT TYPE) (13 CORE)	
79	3-925-582-01	KNOB (SLIDE)	

TCM-190RB52C



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	X-3366-047-1	LEVER (PINCH F) ASSY		113	3-359-466-01	BELT (FR), SQUARE	
102	3-356-713-01	WASHER		114	X-3367-630-1	FLYWHEEL (REV) ASSY	
103	3-907-362-01	SPRING, TORSION		115	3-359-417-01	BELT (FLAT), CAPSTAN	
104	X-3366-970-1	TABLE ASSY, REEL		116	X-3367-629-1	FLYWHEEL (FWD) ASSY	
105	3-362-308-01	CAP (REEL)		117	3-575-321-00	RETAINER, THRUST, CAPSTAN	
106	3-356-714-01	WASHER		118	3-359-436-11	BASE (THRUST RETAINER), FITTING	
107	X-3366-048-1	LEVER (PINCH R) ASSY		119	3-359-414-01	SCREW (+PTPH 2×23)	
108	X-3366-971-1	TABLE ASSY (B), REEL		* 120	A-2007-133-A	MD AUDIO BOARD, COMPLETE	
109	3-359-424-01	GEAR (REV GEAR)		121	1-638-983-11	PC BOARD, MOTOR FLEXIBLE	
110	3-359-430-01	SPRING (CASSETTE RETAINER), LEAF		HRPE101	A-2003-930-A	DECK ASSY, HEAD (PLAYBACK/RECORD/ERASE)	
111	3-388-848-01	SCREW (P2×6) (B TIGHT)		M1	X-3365-377-2	MOTOR ASSY (CAPSTAN)	
* 112	1-638-020-11	LEAF SW BOARD		M2	X-3363-501-2	MOTOR ASSY (REEL)	

6-4. MECHANISM SECTION-2
TCM-190RB52C



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
151	X-3363-790-1	CHASSIS ASSY MECHANICAL		159	3-359-429-11	SLIDER (BRAKE PLATE)	
152	3-359-469-01	SPACER		160	3-359-420-01	GEAR (CAM GEAR)	
153	3-359-425-01	SLIDER (REVERSE SLIDER)		161	3-359-456-01	SPRING (TRIGGER SPRING), TORSION	
154	3-359-426-01	LEVER (REVERSE LEVER)		162	X-3366-569-1	ARM ASSY, FR	
155	3-359-415-11	SLIDER (TRIGGER SLIDER)		163	3-924-185-11	SPRING (FR ARM), TORSION	
156	3-359-448-01	GEAR (TRIGGER)		164	3-359-419-11	GEAR (FR GEAR)	
157	3-359-427-01	SLIDER (LEVERSE SLIDER)		165	3-359-421-01	CLUTCH (REEL DISK)	
158	3-359-454-01	SPRING, TORSION		166	3-359-418-01	PULLEY (FR PULLEY)	

SECTION 7 ELECTRICAL PARTS LIST

AUDIO

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -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

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
*	A-2007-437-A	AUDIO BOARD, COMPLETE *****				< TRANSISTOR >	
		< CAPACITOR >		Q301	8-729-900-89	TRANSISTOR DTC144ES	
						< RESISTOR >	
C100	1-162-286-31	CERAMIC 220PF	10% 50V	R101	1-249-430-11	CARBON 12K 5% 1/4W	
C101	1-137-368-11	FILM 0.0047uF	5% 50V	R102	1-249-431-11	CARBON 15K 5% 1/4W	
C102	1-130-475-00	MYLAR 0.0022uF	5% 50V	R103	1-247-840-00	CARBON 2.4K 5% 1/4W	
C103	1-136-165-00	FILM 0.1uF	5% 50V	R104	1-249-433-11	CARBON 22K 5% 1/4W	
C105	1-136-165-00	FILM 0.1uF	5% 50V	R105	1-249-428-11	CARBON 8.2K 5% 1/4W	
C107	1-126-059-11	ELECT 10uF	20% 63V	R106	1-249-425-11	CARBON 4.7K 5% 1/4W	
C108	1-126-059-11	ELECT 10uF	20% 50V	R201	1-249-430-11	CARBON 12K 5% 1/4W	
C109	1-126-059-11	ELECT 10uF	20% 63V	R202	1-249-431-11	CARBON 15K 5% 1/4W	
C200	1-162-286-31	CERAMIC 220PF	10% 50V	R203	1-247-840-00	CARBON 2.4K 5% 1/4W	
C201	1-137-368-11	FILM 0.0047uF	5% 50V	R204	1-249-433-11	CARBON 22K 5% 1/4W	
C202	1-130-475-00	MYLAR 0.0022uF	5% 50V	R205	1-249-428-11	CARBON 8.2K 5% 1/4W	
C203	1-136-165-00	FILM 0.1uF	5% 50V	R206	1-249-425-11	CARBON 4.7K 5% 1/4W	
C205	1-136-165-00	FILM 0.1uF	5% 50V	R301	1-215-451-00	METAL 18K 1% 1/4W	
C207	1-126-059-11	ELECT 10uF	20% 63V	R303-309			
C208	1-126-059-11	ELECT 10uF	20% 50V		1-249-429-11	CARBON 10K 5% 1/4W	
C209	1-126-059-11	ELECT 10uF	20% 63V	R310	1-247-864-11	CARBON 24K 5% 1/4W	
C301-303				R311	1-247-881-00	CARBON 120K 5% 1/4W	
	1-130-483-00	MYLAR 0.01uF	5% 50V	R312	1-249-434-11	CARBON 27K 5% 1/4W	
C305	1-102-125-00	CERAMIC 4700PF	10% 50V	R313	1-249-431-11	CARBON 15K 5% 1/4W	
C306	1-102-121-00	CERAMIC 2200PF	10% 50V	R314	1-249-429-11	CARBON 10K 5% 1/4W	
C307	1-124-902-00	ELECT 0.47uF	20% 50V	R315	1-249-431-11	CARBON 15K 5% 1/4W	
C308	1-126-964-11	ELECT 10uF	20% 50V	R316	1-249-441-11	CARBON 100K 5% 1/4W	
		< CONNECTOR >		R317	1-247-887-00	CARBON 220K 5% 1/4W	
* CN301	1-568-826-11	SOCKET, CONNECTOR 7P		R318	1-249-432-11	CARBON 18K 5% 1/4W	
CN303	1-695-095-11	SOCKET, CONNECTOR 13P		R319	1-249-429-11	CARBON 10K 5% 1/4W	
		< IC >		R320	1-249-437-11	CARBON 47K 5% 1/4W	
IC101	8-759-098-75	IC HA12171NT				< VARIABLE RESISTOR >	
				RV101	1-230-496-11	RES, ADJ, CARBON 10K (REC LEVEL L)	
				RV201	1-230-496-11	RES, ADJ, CARBON 10K (REC LEVEL R)	

LEAF SW

MD AUDIO

Ref. No.	Part No.	Description	Remark
*	1-638-020-11	LEAF SW BOARD ***** < CONNECTOR >	
* CNP81	1-568-850-11	SOCKET, CONNECTOR 7P < IC >	
IC81	8-749-924-10	IC NJL5165K-B(H1) < RESISTOR >	
R81	1-249-414-11	CARBON 560 5% 1/4W	
R82	1-247-818-11	CARBON 300 5% 1/4W	
R83	1-247-834-11	CARBON 1.3K 5% 1/4W	
R84	1-249-417-11	CARBON 1K 5% 1/4W	
R85	1-249-408-11	CARBON 180 5% 1/4W	
		< SWITCH >	
S81	1-571-958-11	SWITCH, PUSH (1 KEY) (STOP DET)	
S82	1-571-281-21	SWITCH, LEAF (CrO ₂ DET)	
S83	1-571-281-21	SWITCH, LEAF (METAL DET)	
S84	1-571-281-21	SWITCH, LEAF (ERASE PROOF SIDE A)	
S85	1-571-281-21	SWITCH, LEAF (ERASE PROOF SIDE B)	
S86	1-571-281-21	SWITCH, LEAF (HALF DET)	

*	A-2007-133-A	MD AUDIO BOARD, COMPLETE ***** < CAPACITOR >	
C11	1-163-131-00	CERAMIC CHIP 390PF 5% 50V	
C12	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C13	1-136-153-00	FILM 0.01uF 5% 50V	
C14	1-126-177-11	ELECT 100uF 20% 10V	
C15	1-124-234-00	ELECT 22uF 20% 16V	
C16	1-136-434-11	FILM 120PF 5% 630V	
C17	1-102-113-00	CERAMIC 390PF 10% 50V	
C18	1-163-237-11	CERAMIC CHIP 27PF 5% 50V	
C21	1-163-131-00	CERAMIC CHIP 390PF 5% 50V	
C22	1-163-251-11	CERAMIC CHIP 100PF 5% 50V	
C23	1-136-153-00	FILM 0.01uF 5% 50V	
C24	1-126-177-11	ELECT 100uF 20% 10V	
C25	1-124-234-00	ELECT 22uF 20% 16V	
C26	1-136-434-11	FILM 120PF 5% 630V	
C27	1-102-113-00	CERAMIC 390PF 10% 50V	
C28	1-163-237-11	CERAMIC CHIP 27PF 5% 50V	
C31-33	1-124-234-00	ELECT 22uF 20% 16V	
C51	1-163-019-00	CERAMIC CHIP 0.0068uF 10% 50V	
C52	1-163-019-00	CERAMIC CHIP 0.0068uF 10% 50V	
C53	1-163-023-00	CERAMIC CHIP 0.015uF 5% 50V	

Ref. No.	Part No.	Description	Remark
C54	1-136-601-11	FILM 0.01uF 5% 630V	
C56	1-164-505-11	CERAMIC CHIP 2.2uF 16V	
C57	1-164-346-11	CERAMIC CHIP 1uF 16V	
C58	1-164-232-11	CERAMIC CHIP 0.01uF 50V	
C72	1-109-889-11	ELECT 1uF 20% 50V	
		< CONNECTOR >	
* CNJ31	1-580-782-11	CONNECTOR, BOARD TO BOARD	
* CNJ33	1-580-782-11	CONNECTOR, BOARD TO BOARD	
CNJ72	1-764-902-11	CONNECTOR, FFC/FPC 4P	
* CNP32	1-580-781-11	PIN, CONNECTOR (PC BOARD) 7P	
* CNP71	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
		< IC >	
IC31	8-759-249-21	IC uPC1330AGR	
IC32	8-759-106-02	IC uPC4570G2	
		< JUMPER RESISTOR >	
JW1	1-216-295-11	METAL CHIP 0 5% 1/10W	
JW2	1-216-295-11	METAL CHIP 0 5% 1/10W	
JW11-27	1-216-296-11	METAL CHIP 0 5% 1/8W	
		< COIL >	
L11	1-410-780-11	INDUCTOR 27mH	
L21	1-410-780-11	INDUCTOR 27mH	
		< TRANSISTOR >	
Q51-53	8-729-111-29	TRANSISTOR 2SD1616A-K	
Q71	8-729-216-22	TRANSISTOR 2SA1162-G	
		< RESISTOR >	
R11	1-216-099-00	METAL CHIP 120K 5% 1/10W	
R12	1-216-033-00	METAL CHIP 220 5% 1/10W	
R13	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R14	1-216-076-00	METAL CHIP 13K 5% 1/10W	
R15	1-216-107-00	METAL CHIP 270K 5% 1/10W	
R16	1-249-430-11	CARBON 12K 5% 1/4W	
R21	1-216-099-00	METAL CHIP 120K 5% 1/10W	
R22	1-216-033-00	METAL CHIP 220 5% 1/10W	
R23	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R24	1-216-076-00	METAL CHIP 13K 5% 1/10W	
R25	1-216-107-00	METAL CHIP 270K 5% 1/10W	
R26	1-249-430-11	CARBON 12K 5% 1/4W	
R31	1-216-033-00	METAL CHIP 220 5% 1/10W	
R32	1-216-033-00	METAL CHIP 220 5% 1/10W	
R33	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R41	1-249-393-11	CARBON 10 5% 1/4W	
R42	1-249-393-11	CARBON 10 5% 1/4W	

MD AUDIO

PANEL A

PANEL B

POWER

Ref.No.	Part No.	Description	Remark		
R51	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R52	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R53	1-216-073-00	METAL CHIP	10K	5%	1/10W
R54	1-216-309-00	METAL CHIP	5.6	5%	1/10W
R55	1-216-309-00	METAL CHIP	5.6	5%	1/10W
R56	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R71	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R72	1-216-081-00	METAL CHIP	22K	5%	1/10W
R73	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R74	1-216-089-91	METAL GLAZE	47K	5%	1/10W
< VARIABLE RESISTOR >					
RV11	1-241-761-11	RES, ADJ, CARBON 1K (PB LEVEL L)			
RV12	1-238-551-11	RES, ADJ, CARBON 220K (REC BIAS L)			
RV21	1-241-761-11	RES, ADJ, CARBON 1K (PB LEVEL R)			
RV22	1-238-551-11	RES, ADJ, CARBON 220K (REC BIAS R)			
RV71	1-241-630-11	RES, ADJ, CARBON 10K (TAPE SPEED NORMAL)			
RV72	1-241-630-11	RES, ADJ, CARBON 10K (TAPE SPEED HIGH)			
< TRANSFORMER >					
T51	1-423-980-11	TRANSFORMER, BIAS OSCILLATION			

*	1-657-426-11	PANEL A BOARD			

< CONNECTOR >					
CN811	1-568-852-21	SOCKET, CONNECTOR 9P			
< DIODE >					
D814	8-719-046-39	LED SEL5821A-TH15 (II)			
D815	8-719-032-87	LED SEL5420S-TP (▶)			
D816	8-719-032-87	LED SEL5420S-TP (◀)			
D821-824	8-719-032-87	LED SEL5420S-TP (BACK LIGHT)			
< RESISTOR >					
R811	1-249-413-11	CARBON	470	5%	1/4W
R812	1-249-415-11	CARBON	680	5%	1/4W
R813	1-249-413-11	CARBON	470	5%	1/4W
R814	1-249-415-11	CARBON	680	5%	1/4W
< SWITCH >					
S811	1-554-303-21	SWITCH, TACTILE (■)			
S812	1-554-303-21	SWITCH, TACTILE (▶)			
S813	1-554-303-21	SWITCH, TACTILE (◀)			
S814	1-554-303-21	SWITCH, TACTILE (II)			
S815	1-554-303-21	SWITCH, TACTILE (▶▶AMS)			

Ref.No.	Part No.	Description	Remark		
S816	1-554-303-21	SWITCH, TACTILE (◀AMS)			

*	1-657-427-11	PANEL B BOARD			

< CONNECTOR >					
* CN801	1-568-856-11	SOCKET, CONNECTOR 13P			
CN802	1-568-852-21	SOCKET, CONNECTOR 9P			
< DIODE >					
D801	8-719-046-46	LED SEL5221S-TH8F (●REC)			
D802	8-719-046-46	LED SEL5221S-TH8F (CD SYNC)			
< RESISTOR >					
R801	1-249-413-11	CARBON	470	5%	1/4W
R802	1-249-427-11	CARBON	6.8K	5%	1/4W
R803	1-249-423-11	CARBON	3.3K	5%	1/4W
< SWITCH >					
S801	1-554-303-21	SWITCH, TACTILE (●REC)			
S802	1-554-303-21	SWITCH, TACTILE (CD SYNC)			
S803	1-762-547-11	SWITCH, SLIDE (DOLBY ON/OFF)			
S804	1-762-547-11	SWITCH, SLIDE (DIRECTION ⇄/⇄)			

*	A-2007-467-A	POWER BOARD, COMPLETE			

< CAPACITOR >					
C151	1-102-978-00	CERAMIC	220PF	5%	50V
C251	1-102-978-00	CERAMIC	220PF	5%	50V
C500	1-136-165-00	FILM	0.1uF	5%	50V
C501	1-126-234-11	ELECT	2200uF	20%	16V
C502	1-126-234-11	ELECT	2200uF	20%	16V
C503	1-126-059-11	ELECT	10uF	20%	50V
C504	1-126-059-11	ELECT	10uF	20%	50V
C505	1-126-096-11	ELECT	10uF	20%	35V
C506	1-126-096-11	ELECT	10uF	20%	35V
C507	1-124-997-11	ELECT	470uF	20%	10V
C508	1-124-997-11	ELECT	470uF	20%	10V
C509	1-126-935-11	ELECT	470uF	20%	6.3V
C510	1-164-159-11	CERAMIC	0.1uF		50V
< CONNECTOR >					
* CN501	1-565-291-11	SOCKET, CONNECTOR 13P			
CN502	1-568-834-21	SOCKET, CONNECTOR 15P			
* CN503	1-568-826-11	SOCKET, CONNECTOR 7P			

POWER SYSTEM CONTROL

Ref.No.	Part No.	Description	Remark
< DIODE >			
D501-504	8-719-200-82	DIODE 11ES2	
D506	8-719-200-82	DIODE 11ES2	
< PLATE, GROUND >			
* EB501	4-942-204-01	PLATE, GROUND	
< FERRITE BEAD >			
FB514	1-412-473-21	INDUCTOR 0UH	
FB515	1-410-397-21	FERRITE BEAD INDUCTOR 1.1uH	
< IC >			
IC501	8-759-288-53	IC LA5617	
IC502	8-759-231-53	IC TA7805S	
< TRANSISTOR >			
Q101	8-729-900-74	TRANSISTOR DTC143TS	
Q201	8-729-900-74	TRANSISTOR DTC143TS	
< RESISTOR >			
R151	1-249-421-11	CARBON 2.2K 5% 1/4W	
R152	1-249-427-11	CARBON 6.8K 5% 1/4W	
R251	1-249-421-11	CARBON 2.2K 5% 1/4W	
R252	1-249-427-11	CARBON 6.8K 5% 1/4W	
△R501	1-219-137-11	FUSIBLE 0.33 10% 1/4W F	
△R502	1-219-137-11	FUSIBLE 0.33 10% 1/4W F	
R503	1-249-417-11	CARBON 1K 5% 1/4W	

*	A-2007-466-A	SYSTEM CONTROL BOARD, COMPLETE	

< CAPACITOR >			
C701	1-130-483-00	MYLAR 0.01uF 5% 50V	
C704	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C705	1-164-159-11	CERAMIC 0.1uF 50V	
C707	1-162-306-11	CERAMIC 0.01uF 30% 16V	
C708	1-164-159-11	CERAMIC 0.1uF 50V	
C709	1-162-290-31	CERAMIC 470PF 10% 50V	
C711	1-124-120-11	ELECT 220uF 20% 25V	
C712	1-124-910-11	ELECT 47uF 20% 50V	
C721	1-124-910-11	ELECT 47uF 20% 50V	
C722	1-124-910-11	ELECT 47uF 20% 50V	
C723	1-164-159-11	CERAMIC 0.1uF 50V	
C724	1-162-288-31	CERAMIC 330PF 10% 50V	

Ref.No.	Part No.	Description	Remark
< CONNECTOR >			
* CN701	1-568-832-11	SOCKET, CONNECTOR 13P	
* CN703	1-568-826-11	SOCKET, CONNECTOR 7P	
* CN704	1-580-784-11	CONNECTOR, BOARD TO BOARD	
* CN705	1-580-784-11	CONNECTOR, BOARD TO BOARD	
CN706	1-695-090-11	PIN, CONNECTOR (PC BOARD) 13P	
CN708	1-568-834-21	SOCKET, CONNECTOR 15P	
* CN710	1-560-060-00	PIN, CONNECTOR 2P	
< DIODE >			
D702	8-719-987-63	DIODE 1N4148M	
< IC >			
IC702	8-759-343-04	IC TMP87C846N-4220	
IC703	8-759-165-82	IC PST600E-T	
IC704	8-759-803-42	IC LA6500-FA	
< TRANSISTOR >			
Q701	8-729-900-80	TRANSISTOR DTC114ES	
Q702	8-729-900-61	TRANSISTOR DTA114ES	
Q703	8-729-900-61	TRANSISTOR DTA114ES	
Q704	8-729-801-84	TRANSISTOR 2SB1013-4	
Q705	8-729-620-05	TRANSISTOR 2SC2603-EF	
< RESISTOR >			
R700	1-249-397-11	CARBON 22 5% 1/4W	
R701	1-249-429-11	CARBON 10K 5% 1/4W	
R702	1-249-434-11	CARBON 27K 5% 1/4W	
R703	1-249-425-11	CARBON 4.7K 5% 1/4W	
R704-706	1-249-423-11	CARBON 3.3K 5% 1/4W	
R707	1-249-429-11	CARBON 10K 5% 1/4W	
R708	1-249-429-11	CARBON 10K 5% 1/4W	
R709	1-249-425-11	CARBON 4.7K 5% 1/4W	
R710	1-249-425-11	CARBON 4.7K 5% 1/4W	
R711	1-249-429-11	CARBON 10K 5% 1/4W	
R712	1-249-393-11	CARBON 10 5% 1/4W	
R713	1-249-429-11	CARBON 10K 5% 1/4W	
R715	1-249-441-11	CARBON 100K 5% 1/4W	
R716	1-249-425-11	CARBON 4.7K 5% 1/4W	
R721	1-247-807-31	CARBON 100 5% 1/4W	
R722	1-249-433-11	CARBON 22K 5% 1/4W	
R723	1-249-433-11	CARBON 22K 5% 1/4W	
R724	1-249-429-11	CARBON 10K 5% 1/4W	
R725	1-249-433-11	CARBON 22K 5% 1/4W	
R726	1-249-430-11	CARBON 12K 5% 1/4W	
R727	1-247-862-11	CARBON 20K 5% 1/4W	

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

SYSTEM CONTROL

Ref.No.	Part No.	Description	Remark
R741-748			
	1-249-417-11	CARBON	1K 5% 1/4W
R751	1-249-410-11	CARBON	270 5% 1/4W
R752	1-249-410-11	CARBON	270 5% 1/4W
R753	1-249-412-11	CARBON	390 5% 1/4W
R754	1-249-409-11	CARBON	220 5% 1/4W
R755	1-249-409-11	CARBON	220 5% 1/4W
R756	1-249-410-11	CARBON	270 5% 1/4W
< VIBRATOR >			
X701	1-577-358-21	VIBRATOR, CERAMIC (4MHz)	

MISCELLANEOUS			

7	1-769-882-11	WIRE (FLAT TYPE) (7 CORE)	
9	1-773-008-11	WIRE (FLAT TYPE) (15 CORE)	
13	1-775-734-11	CORD, CONNECTION 13P	
60	1-775-429-11	WIRE (FLAT TYPE) (9 CORE)	
71	1-769-882-11	WIRE (FLAT TYPE) (7 CORE)	
78	1-775-428-11	WIRE (FLAT TYPE) (13 CORE)	
121	1-638-983-11	PC BOARD, MOTOR FLEXIBLE	
HRPE101	A-2003-930-A	DECK ASSY, HEAD (PLAYBACK/RECORD/ERASE)	
M1	X-3365-377-2	MOTOR ASSY (CAPSTAN)	
M2	X-3363-501-2	MOTOR ASSY (REEL)	

ACCESSORIES & PACKING MATERIALS			

*	3-704-333-01	SHEET (STANDARD), PROTECTION	
	3-800-955-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE, GERMAN, DUTCH, SWEDISH, ITALIAN)	
*	3-928-096-01	CUSHION (TC) (FRONT)	
*	3-928-097-01	CUSHION (TC) (REAR)	
*	3-928-098-11	INDIVIDUAL CARTON	

HARDWARE LIST			

#1	7-621-773-93	SCREW (PANEL 2.6 TP2)	
#2	7-621-775-00	SCREW +B 2.6×3	
#3	7-685-646-79	SCREW +BVTP 3×8 TYPE2 N-S	
#4	7-685-780-01	SCREW +PTT 2×3 (S)	
#5	7-621-770-67	SCREW +PTT 2.6×6 (S)	
#6	7-627-556-08	SCREW +P 2.6×2.8	

TC-TX1

SONY SERVICE MANUAL

*AEP Model
UK Model
E Model
Australian Model*

SUPPLEMENT-1

File this supplement with the service manual.

Subject: COLOR VARIATION (GOLD TYPE) ADDITION

- The others are common parts so that please refer to the previous issued service manual.

Page	SILVER TYPE			GOLD TYPE		
	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
17	3	4-975-358-11	CASE	3	4-975-358-51	CASE
	4	4-942-636-21	EMBLEM (No. 3.5), SONY	4	4-942-636-31	EMBLEM (No. 3.5), SONY
18	51	X-3370-555-1	BUTTON (REC) ASSY	51	X-3372-736-1	BUTTON (REC) ASSY
	52	3-925-580-01	BUTTON (EJECT)	52	3-925-580-11	BUTTON (EJECT)
	53	3-925-575-01	PANEL (MOLD), FRONT	53	3-925-575-11	PANEL (MOLD), FRONT
	56	3-925-574-01	PANEL (AL), FRONT	56	3-925-574-11	PANEL (AL), FRONT
	63	3-925-581-01	BUTTON (PLAY)	63	3-925-581-11	BUTTON (PLAY)
	65	3-925-576-01	PANEL, TOP	65	3-925-576-11	PANEL, TOP
	79	3-925-582-01	KNOB (SLIDE)	79	3-925-582-11	KNOB (SLIDE)