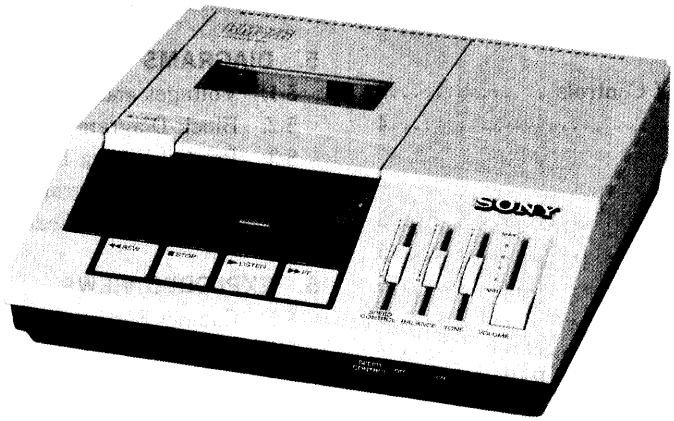
SERVICE MANUAL

UK Model

Ver 1.1 2001. 07



SPECIFICATIONS

Playback speed	4.8 cm/sec.
Playback speed adjustment range	−20% ~ +50%
Fast-winding time	Approx. 1.5 min. using the Sony C-60 cassette
Frequency range	150 Hz ~ 8,000 Hz
Speaker	7 cm dia.
Power output	300 mW (at 10% harmonic distortion)
Output	Headphone jack (minijack) for 25 ~ 32 ohm headphones
Power requirements	240 V AC, 50 Hz
Power consumption	13 W
Dimensions	224 × 68 × 232 mm ($8^{7}/_{8}$ 2¾ × 9¼ in.) (w/h/d)
Weight	Approx. 2.5 kg (5 lb 9 oz)

Design and specifications subject to change without notice.

Optional accessory Foot Control Unit FS-75

Model Name Using Similar Mechanism	BM-75
Tape Transport Mechanism Type	MB-76-57

Note

This appliance conforms with EEC Directives 76/889 and 82/499 regarding interference suppression.

9-953-007-12
2001G0400-1

Sony Corporation
Personal Audio Company
Shinagawa Tec Service Manual Production Group

TRANSCRIBER

SONY®

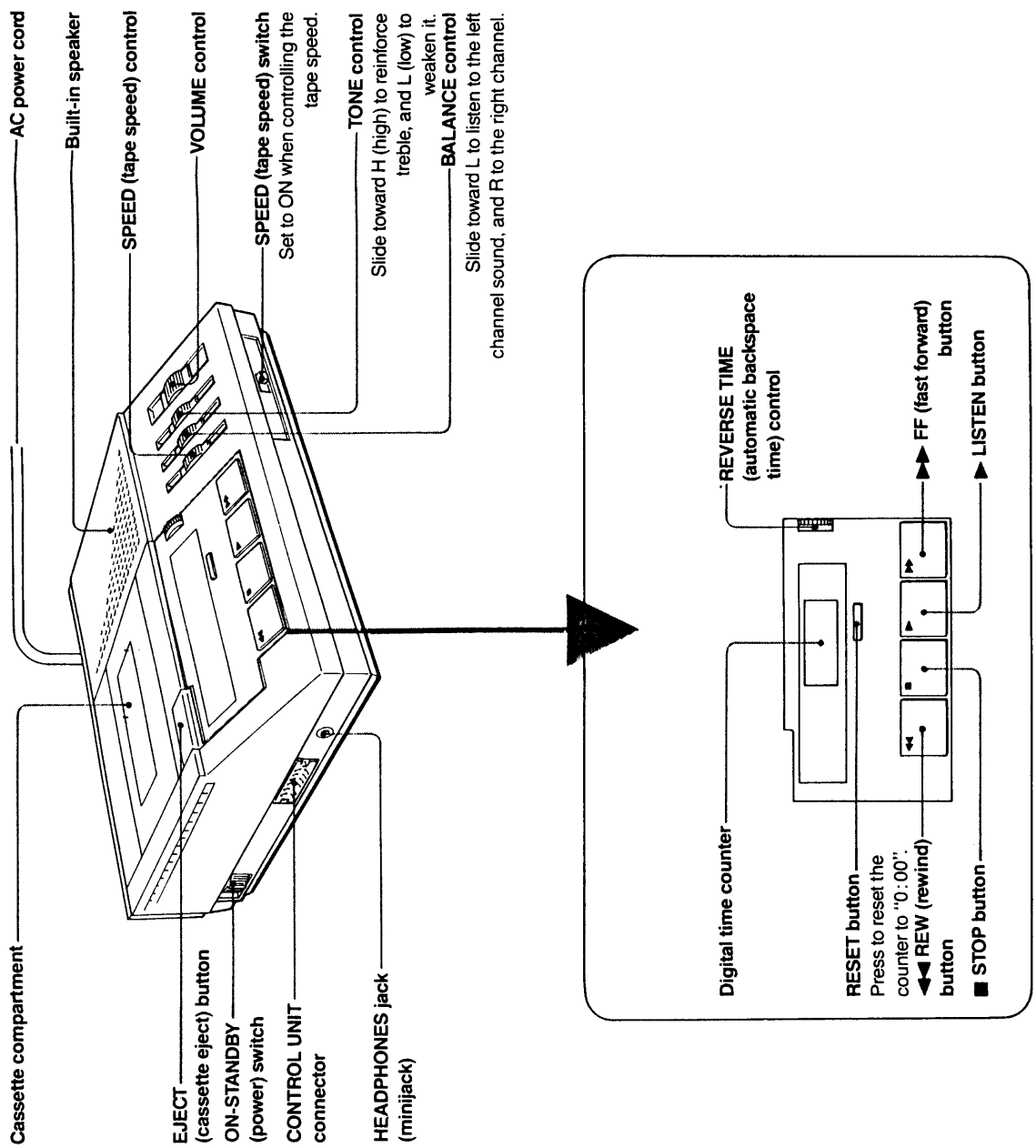
TABLE OF CONTENTS

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.

SECTION 1
GENERAL

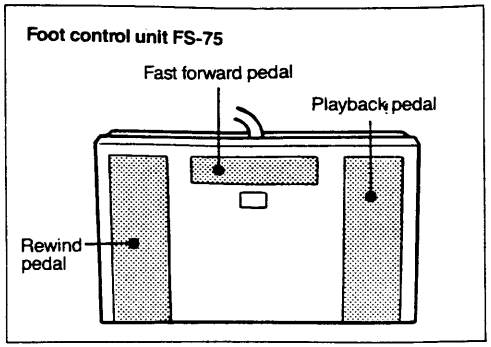
1-1. LOCATION AND FUNCTION OF CONTROLS

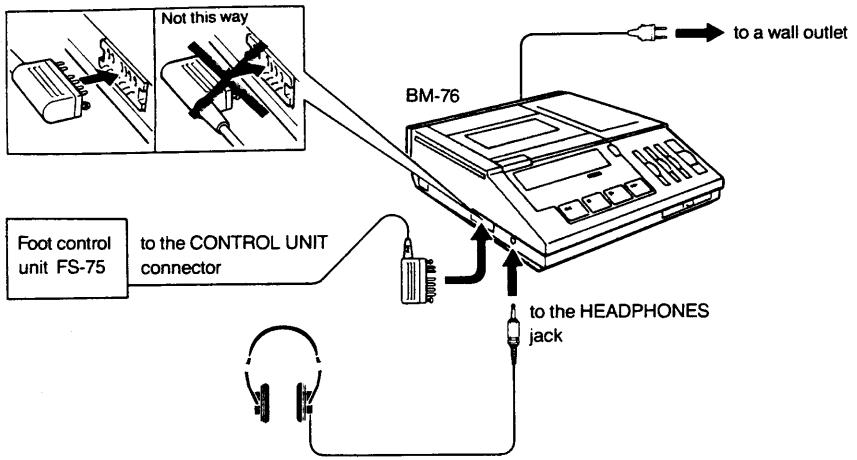


1-2. HOW TO USE

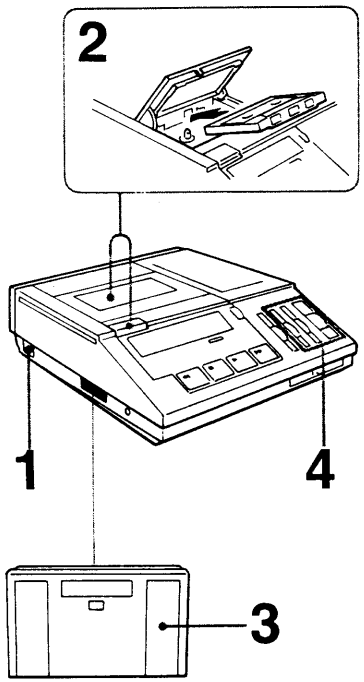
Use of the Optional Foot Control Unit

The optional Foot Control Unit FS-75 leaves your hands free, enabling you to control this Transcriber with your foot.





Operation



1 **Set the ON-STANDBY switch to ON.**

2 **Press the EJECT button, and insert a cassette.**
Insert the cassette so that a click sounds.

3 **Step on the right pedal of the foot control unit.**
The tape is played back as long as you press down on the pedal.

4 **Adjust the VOLUME, TONE, BALANCE control.**

To stop the tape, take your foot off the pedal.

You can control the unit with the buttons on itself as well.

To change the automatic backspace time
This unit automatically rewinds the tape a little each time you take your foot off the playback pedal, so that you will not miss any words when you resume playback. To adjust the backspace time, use the REVERSE TIME control. (If you set it to 0, the tape will not be rewound.) This function works only when you use the FS-75 foot control unit.

To adjust the playback speed
Set the SPEED switch to ON, and adjust the SPEED control. Set the control toward + for faster playback, and toward – for slower playback.

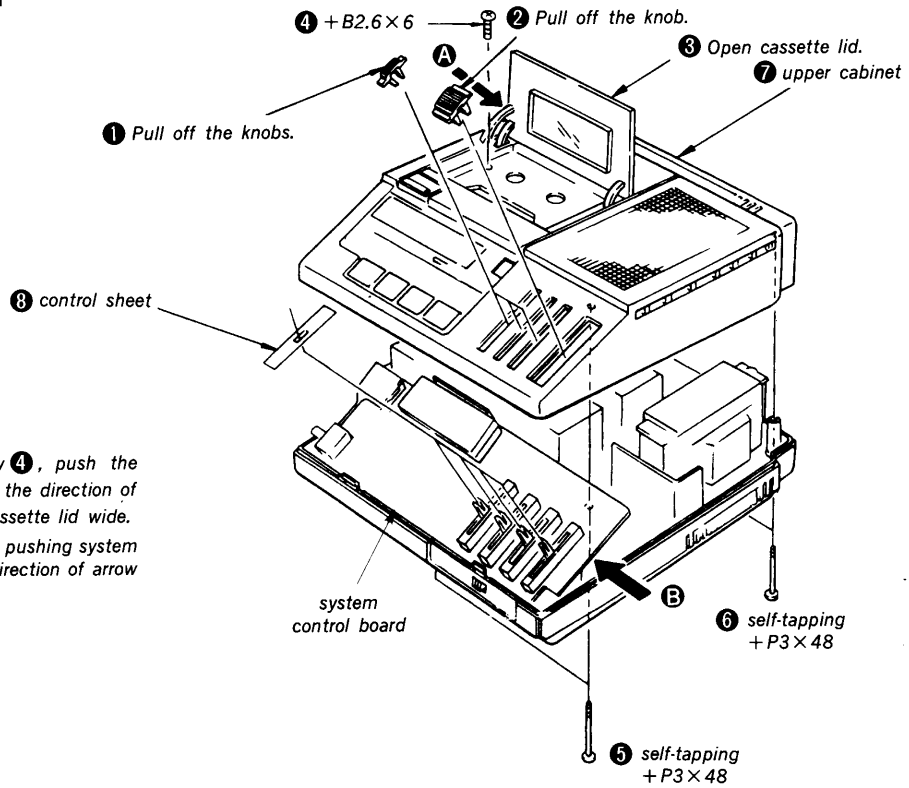
When the tape ends
The tape will automatically enter the stop mode, and a beep sounds. The sound stops when you take your foot off the pedal.

When headphones are connected to the unit
The sound does not come out from the built-in speaker.

SECTION 2
DISASSEMBLY

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

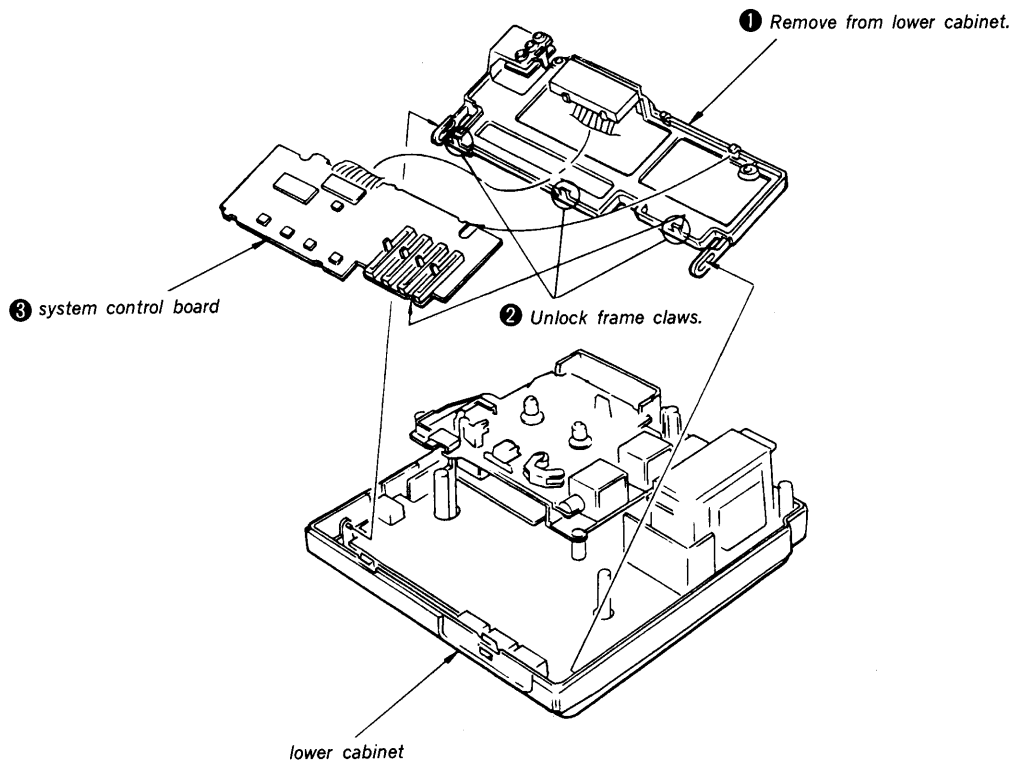
2-1. UPPER CABINET



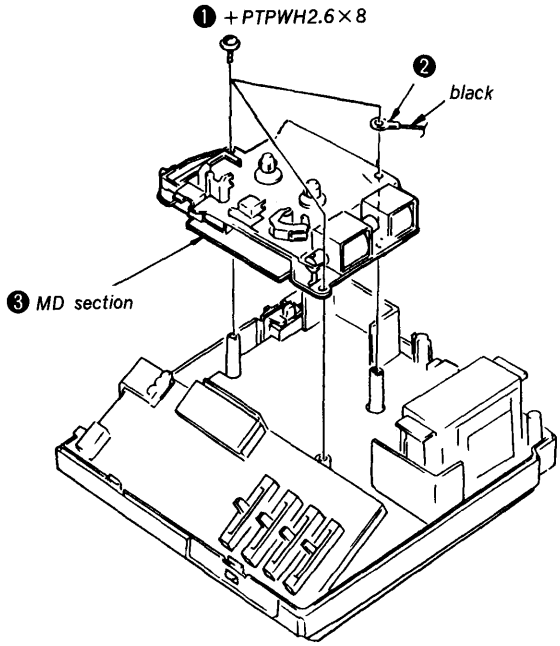
Note :

1) *When removing screw ❹, push the stay of cassette lid in the direction of arrow Ⓐ and open cassette lid wide.*
2) *Remove upper cabinet pushing system control board in the direction of arrow Ⓑ.*

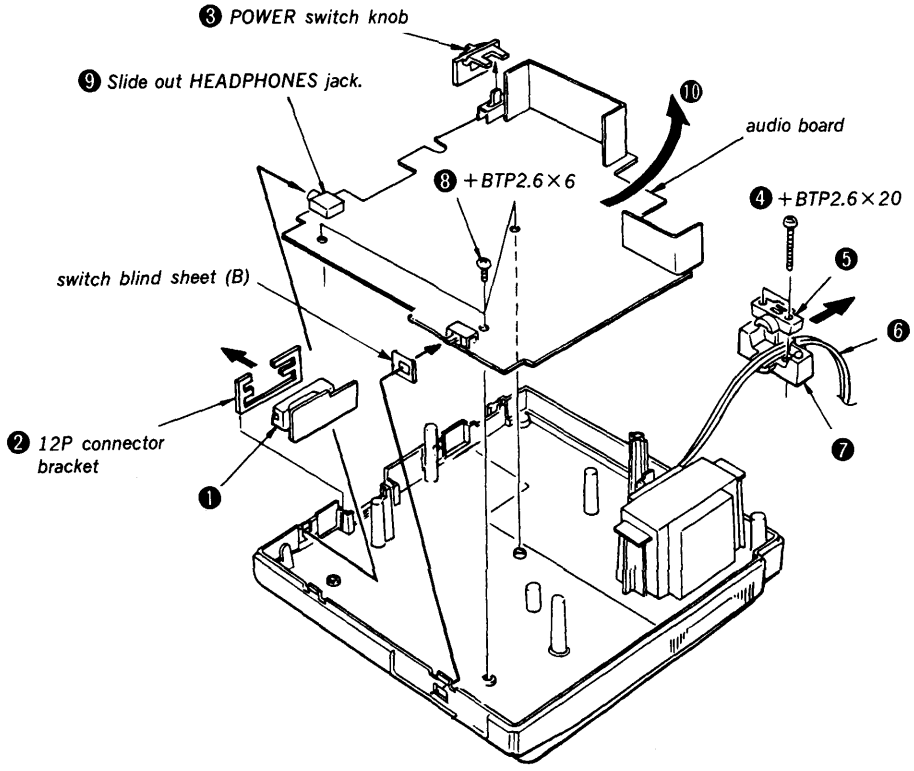
2-2. SYSTEM CONTROL BOARD



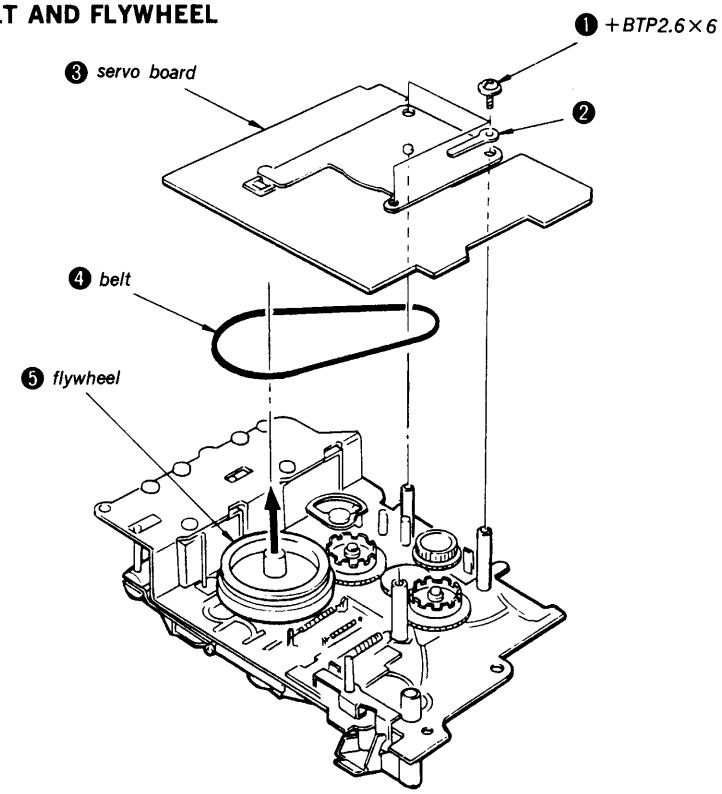
2-3. MD SECTION



2-4. AUDIO BOARD

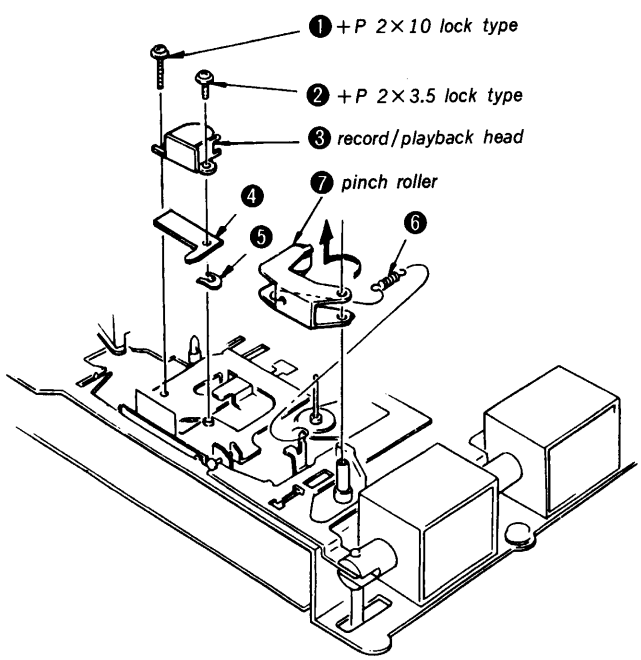


2-5. SERVO BOARD, BELT AND FLYWHEEL

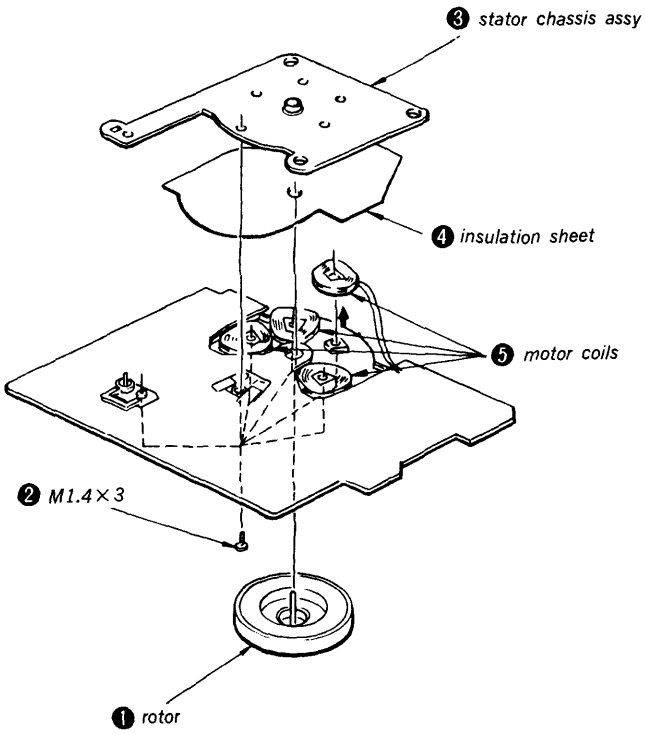


2-6. RECORD/PLAYBACK HEAD AND PINCH ROLLER

❶ – ❺ : Remove the record/playback head
❻, ❼ : Remove the pinch roller



2-7. ROTOR AND MOTOR COILS



SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

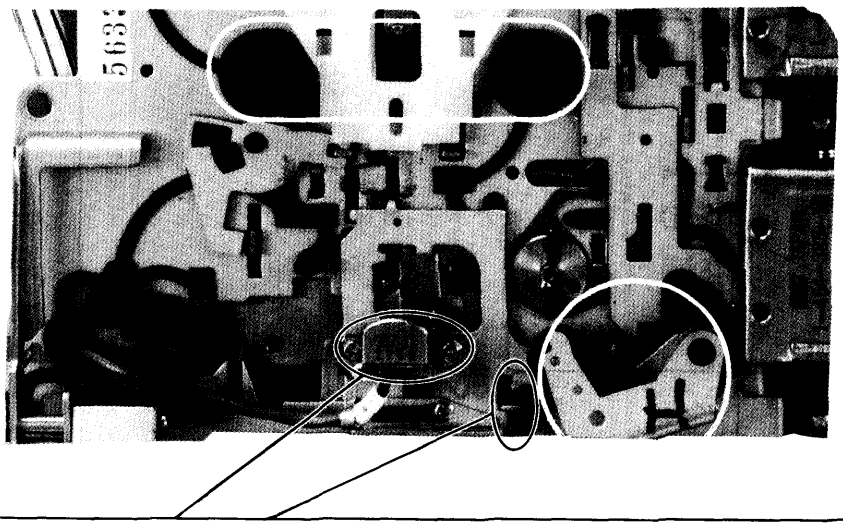
1. Clean the following parts with a denatured-alcohol-moistened swab:
   playback head — pinch roller
   capstan — rubber belts
2. Demagnetize the playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be perfomed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Cassette type torque meter	Meter reading
Forward	CQ-102C	31−45g•cm (0.45−0.6 oz•inch)
Fast-Forward	CQ-201B	120−190g•cm (1.67−2.64 oz•inch)
Rewind	CQ-201B	120−190g•cm (1.67−2.64 oz•inch)
Forward Back Tension	CQ-102C	1.5−4.5g•cm (0.02−0.06 oz•inch)

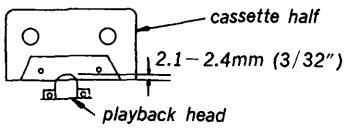
Tape Tension Measurement

Mode	Cassette type torque meter	Meter reading
Forward	CQ-403A	more than 100g•cm (more than 1.4 oz•inch)

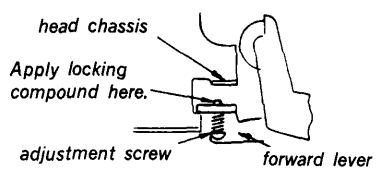


Head Stroke/Position Adjustment
—Fast-forward, Rewind, stop and LISTEN modes—

1. Fast-forward, Rewind and stop modes:
   Adjust head position so that head tip positions 2.1−2.4mm (3/32″) inside from the edge of cassette half.

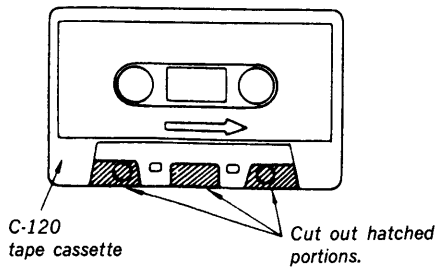


2. LISTEN and stop modes:
   a) In LISTEN mode, adjust the screw so that head tip positions 3.3−3.4mm (5/32″) inside from the edge of cassette half.
   b) Repeat stop and LISTEN modes alternately a few times and finally, in LISTEN mode, check if position of head is not changed from that mode in step a).
   c) After adjustment, lock adjustment screw.

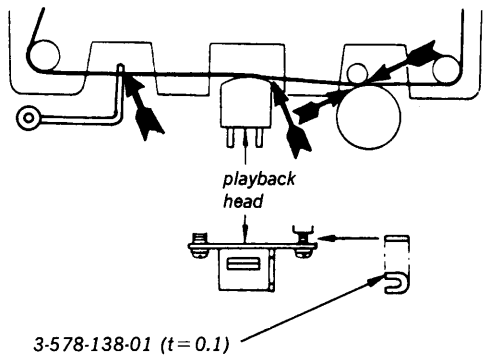


Head Height Adjustment

1. Prepare an adjustment cassette as shown below.



2. In playback mode and viewing from the front, adjust the head heights to eliminate tape curl and tape twist at arrowed portions.

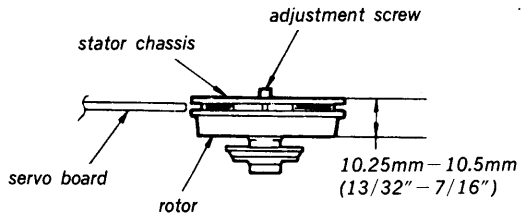


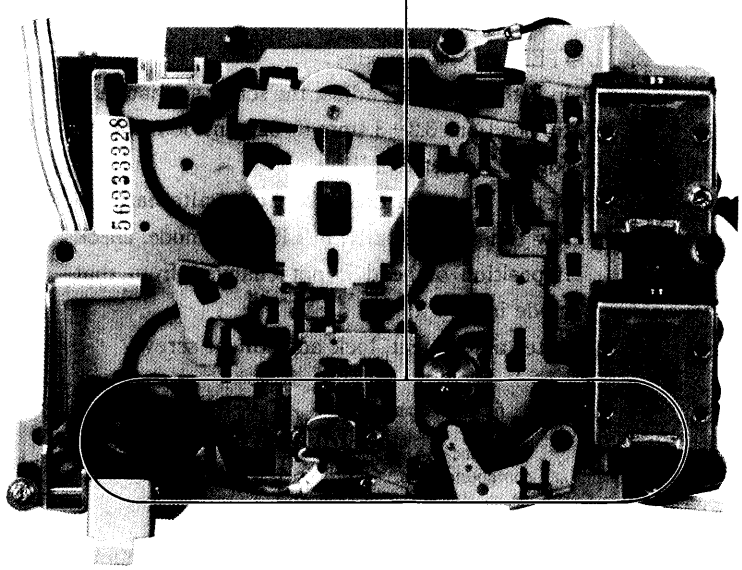
3-578-138-01 (t=0.1)
3-578-138-11 (t=0.2)
3-578-138-21 (t=0.3)
Shim, head height adjustment

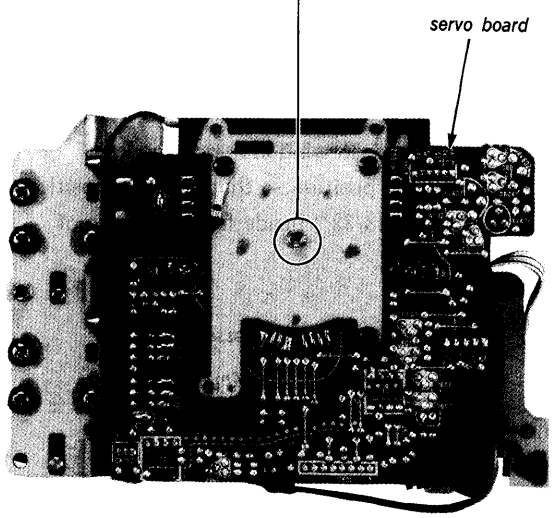
Rotor Thrust Adjustment

— Stop mode —

Adjust thrust screw so that the specified clearance is obtained.







Forward-Solenoid and Fast-Forward/Rewind Solenoid Position Adjustment

Note:

- Adjust forward-solenoid (PM901) and fast-forward/rewind solenoid (PM902) by the same methods as shown below.
  ( ): fast-forward/rewind solenoid position adjustment.
- Step 5 is forward lever position confirmation preformed in only forward-solenoid (PM901).
- Step 6 is position confirmation performed in only fast-forward/rewind solenoid (PM902).

1. Unplug CN401 (CN402) for PM901 (PM902) at audio board.
2. Apply 17 V dc voltage to solenoid terminals of PM901. Red lead is positive side.
3. Loosen adjustment screws.
4. Move solenoid and tighten adjustment screws retaining the position of S cam as shown in Fig. A.
5. Plug CN401 to audio board and put the unit in listen mode. At this time, clearance should exit between forward lever and pinch lever as shown in Fig. B.
6. Clearance should exist between F/R return spring and stud in fast-forward or rewind mode. (See Fig. C.)
7. After adjustment, apply suitable locking compound to adjustment screws.

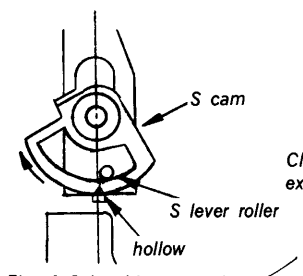


Fig. A Solenoid attracted

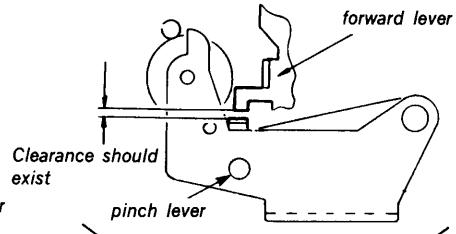


Fig. B

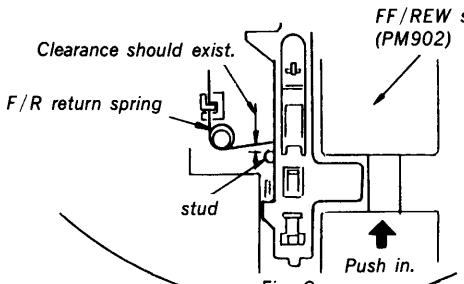
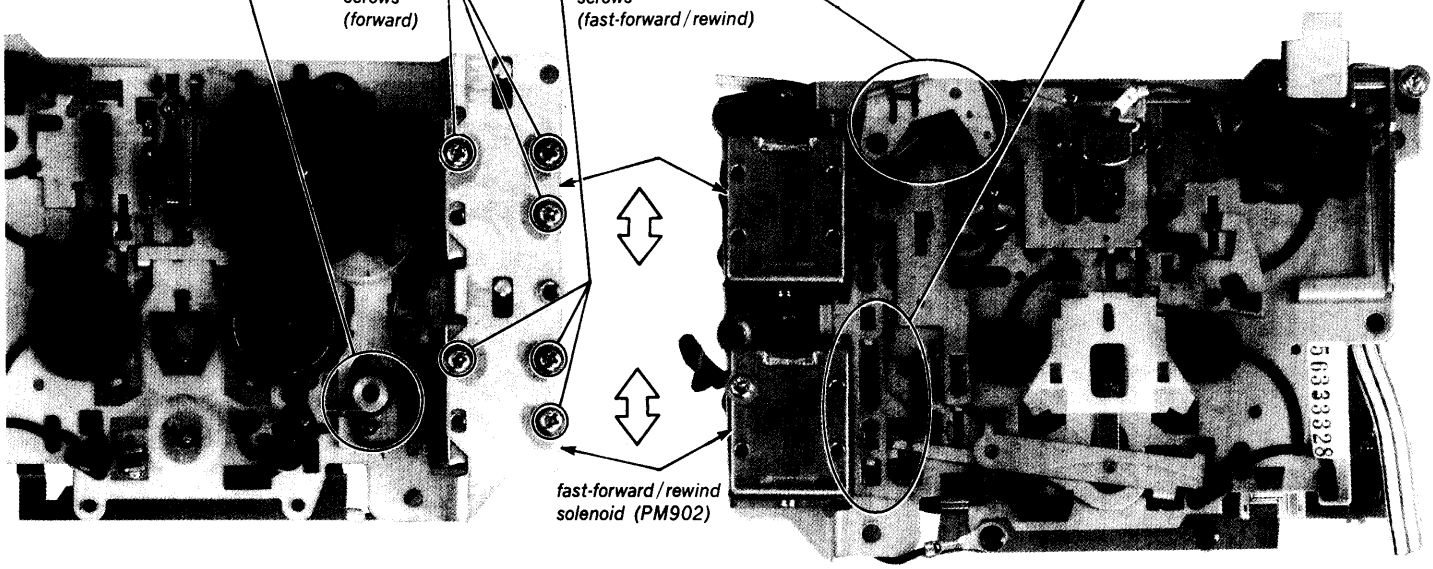


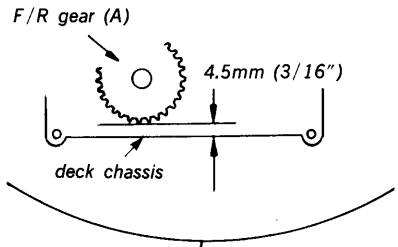
Fig. C

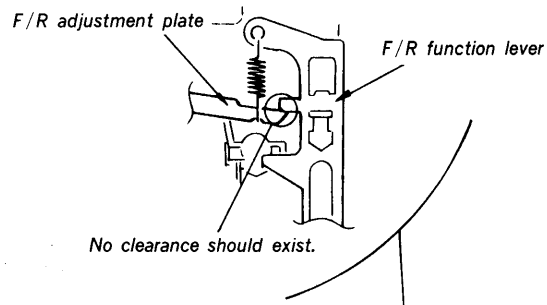


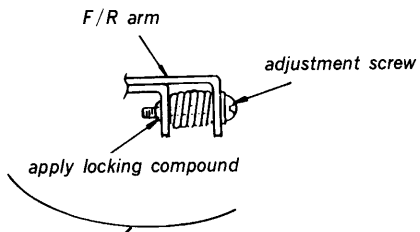
F/R Arm Position Adjustment

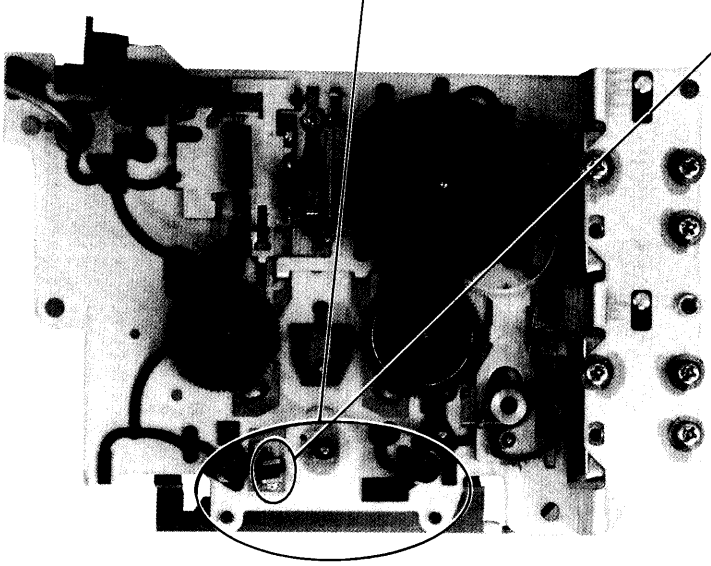
Note: This adjustment should be made after F/R solenoid (PM902) position adjustment.

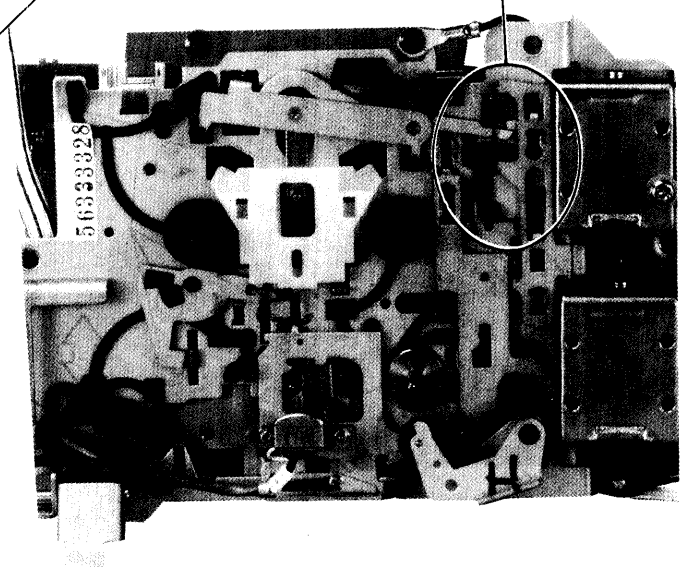
1. Put the unit in stop mode, and loosen adjustment screw.
2. Turn the adjustment screw clockwise so that F/R gear (A) positions 4.5mm (3/16″) inside from edge of deck chassis.
3. In fast-forward or rewind mode, clearance should not exist between F/R adjustment plate and F/R function lever.
4. After adjustment, lock adjustment screw with locking compound.











SECTION 4
ELECTRICAL ADJUSTMENTS

Note :

- Switches and controls should be set to the positions as follows unless otherwise specified.
  POWER switch : ON
  SPEED CONTROL switch : OFF
  REVERSE TIME switch : OFF
  TONE control : max. H
  BALANCE control : mechanical mid
  VOLUME control : mechanical mid

Standard Output Level

	Speaker	Headphones
load impedance	8Ω	8Ω
output level	0.775V (0dB)	0.775V (0dB)

Test tape

Type	Signal	Used for
P-4-A063	6.3kHz, −10dB	playback head azimuth adjustment
WS-48A	3kHz, 0dB	tape speed adjustment

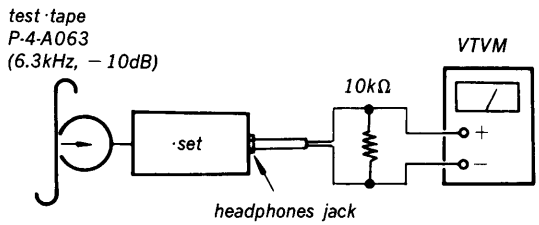
Playback Head Azimuth Adjustment

Setting :

VOLUME control : mechanical mid

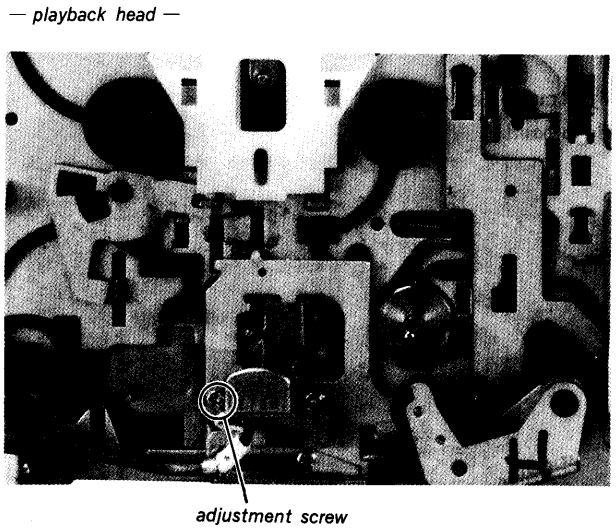
Procedure :

1. Mode : Playback (LISTEN)



2. Turn the adjustment screw to obtain the maximum reading on VTVM.
   Adjustment should be finished with the screw in tightening direction.
3. After the adjustment, lock the adjustment screw with suitable locking compound.

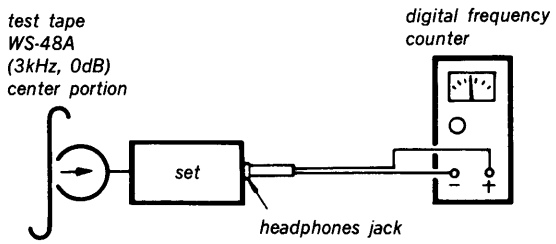
Adjustment Location



Tape Speed Adjustment

Setting :

Mode : Playback (LISTEN)

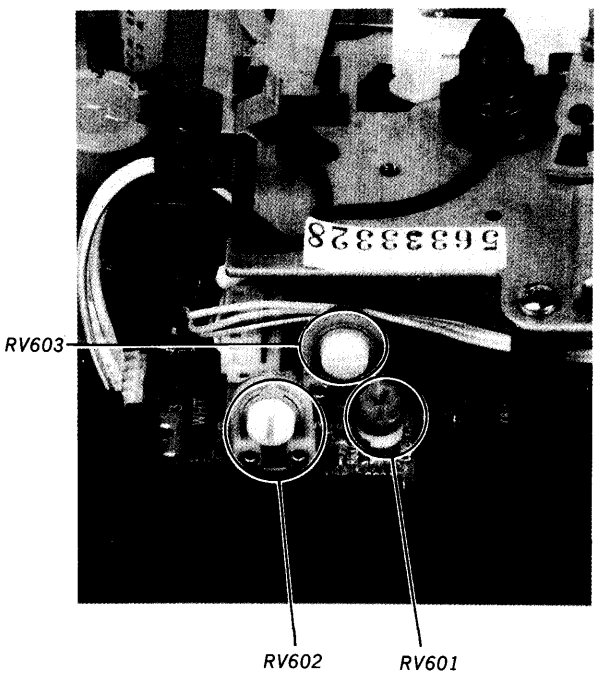


Procedure :

1. SPEED CONTROL switch : OFF
   Adjust RV601 to obtain a 3,015Hz to 3,030Hz frequency reading.
2. SPEED CONTROL switch : ON
   SPEED CONTROL control : max. (+)
   Adjust RV602 to obtain a 5,100±150Hz frequency reading.
3. SPEED CONTROL switch : ON
   SPEED CONTROL control : min. (−)
   Adjust RV603 to obtain a 2,250±15Hz frequency reading.

Adjustment Location

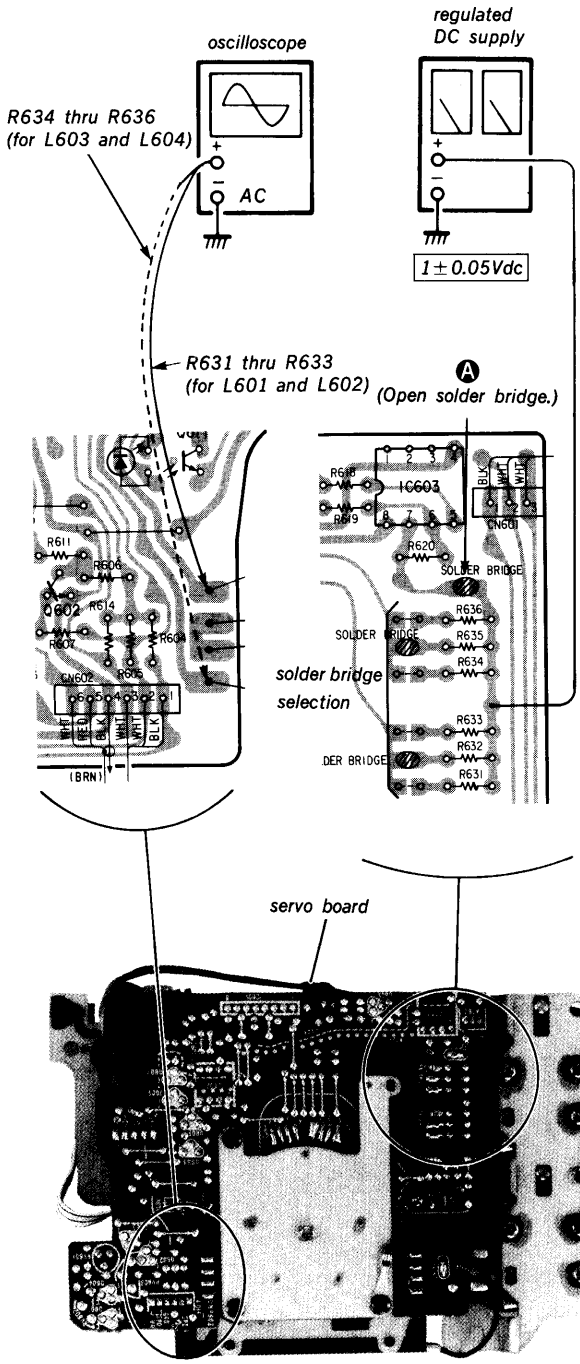
— servo board —



Motor Output Balance Adjustment

Setting and Adjustment Location :

Mode : playback (LISTEN)



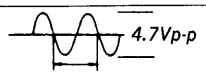
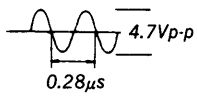
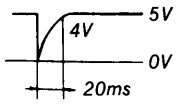
Procedure :

1. Open solder bridge (SERVO) in portion Ⓐ.
2. Adjust output voltage by selecting solder bridge for R631 through R633 for L601 and L602, and R634 through R636 for L603 and L604, to obtain an 8±1 Vp-p level.
3. After the adjustment, remove external dc supply, and make a solder bridge again to the patterns opened at the setting above.

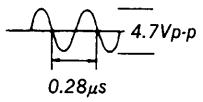
SECTION 5
DIAGRAMS

5-1. VOLTAGES AND WAVEFORMS

A. IC501 (Microcomputer for System Control)

Pin	Function	Voltages
1	EXTAL (CRYSTAL OSCILLATOR)	
2	XTAL (CRYSTAL OSCILLATOR)	MICROCOMPUTER CLOCK 
3	$\overline{\text{RESET}}$	5.3V (Pull out the AC power cord from the wall outlet to reset microcomputer.) 
4	(not used)	5.3V
5	SO SERIAL OUTPUTS	SEE C. THRU E.
6	SI SERIAL INPUTS	SEE C. THRU E.
7	$\overline{\text{SC}}/\overline{\text{TO}}$ SERIAL-PORT TIMING PULSE	SEE C. THRU E.
8	(not used)	5.3V
9	PLAYBACK AMP MUTING OUTPUT	MUTING ON (FF/REW/STOP): 4.6V MUTING OFF (LISTEN): 0V
10	(not used)	
11	MOTOR AUTO-OFF OUTPUT	MOTOR ON: 0V MOTOR STOP: 0.7V
12	SOLENOID KICK-SIGNAL OUTPUT	SEE F.
13	FORWARD SOLENOID OUTPUT	PM901 ON (LISTEN): 0V PM901 OFF: 5.3V
14	FAST-FORWARD/REWIND SOLENOID OUTPUT	PM902 ON (FF/REW): 0V PM902 OFF: 5.3V
15	CONSTANT MOTOR SPEED OUTPUT	CONSTANT SPEED: 0V VARIABLE SPEED: 3.0V
16	MOTOR REVERSIBLE OUTPUT	FORWARD: 0V REVERSE: 0.7V
17	(not used)	5.3V
18	(not used)	5.3V
19	(not used)	5.3V
20	(not used)	5.3V
21	V_{SS}	0V
22	ALARM OUTPUT	ALARM ON: 0.01V ALARM OFF: 4.5V
23	(not used)	5.3V
24	(not used)	5.3V
25	TIMING SIGNAL OUTPUT FOR IC502	SEE G.
26	(not used)	5.3V
27	STOP SWITCH INPUT	S504 ON: 0V S504 OFF: 5.3V
28	FOOT SWITCH INPUT FROM "FS-75"	SWITCH ON: 0.8V SWITCH OFF: 5.3V
29	(not used)	5.3V
30	(not used)	0V
31	(not used)	0V
32	(not used)	5.3V
33	(not used)	5.3V
34	(not used)	5.3V
35	FOOT-LISTEN MODE SIGNAL INPUT FROM "FS-75"	FOOTLISTEN: 0.8V STOP: 5.3V
36	BACK-SPACE MODE SIGNAL INPUT	BACK SPACE ON: 0.8V STOP: 5.3V
37	(not used)	5.3V
38	(not used)	5.3V
39	FAST-FORWARD BUTTON SIGNAL INPUT	S506 ON: 0V S506 OFF: 5.3V
40	REWIND BUTTON SIGNAL INPUT	S503 ON: 0V S503 OFF: 5.3V
41	LISTEN-BUTTON (BM-76) SIGNAL INPUT	S505 ON: 0V S505 OFF: 5.3V
42	V_{CC}	5.3V

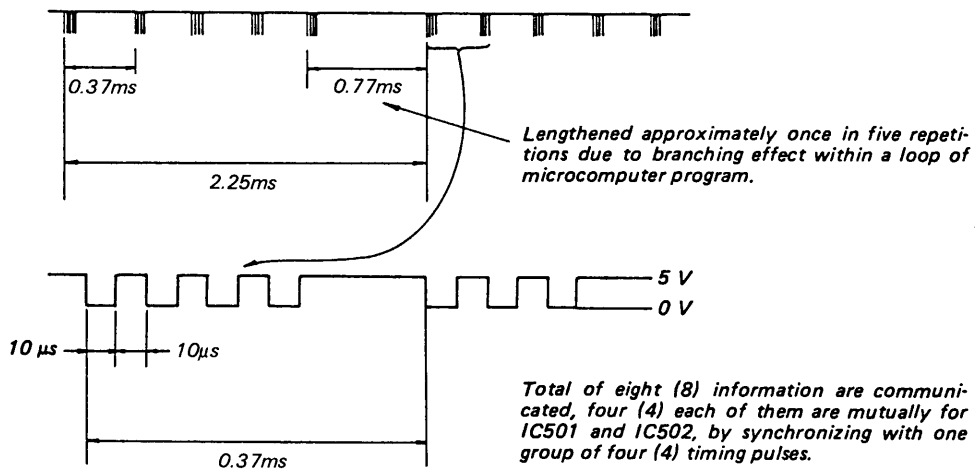
B. IC502 (Microcomputer for Display and Counter)

Pin	Function	Voltages
1	EXTAL (CRYSTAL OSILLATOR)	 MICROCOMPUTER CLOCK
2	(not used)	2.5V
3	$\overline{\text{RESET}}$	Same as pin 3 of IC501.
4	(not used)	5.3V
5	SO SERIAL OUTPUTS	SEE C. THRU E.
6	SI SERIAL INPUTS	SEE C. THRU E.
7	$\overline{\text{SC}}/\overline{\text{TO}}$ SERIAL PORT TIMING PULSE	SEE C. THRU E.
8	(not used)	5.3V
9 | 20	FLUORESCENT DISPLAY DRIVE	SEE H.
21	V_{SS}	0V
22	(not used)	0V
23	SERIAL-DRIVE SIGNAL OUTPUT	SEE C. THRU E.
24	(not used)	0V
25	(not used)	0V
26	FLUORESCENT DISPLAY DRIVE	SEE H.
27	(not used)	5.3V
28	(not used)	5.3V
29	(not used)	5.3V
30	TAKE-UP REEL SIGNAL INPUT	SEE I.
31	SUPPLY REEL SIGNAL INPUT	SEE I.
32	TIMING-SIGNAL INPUT FROM IC501	SEE G.
33	(not used)	0V
34 | 37	PARTIAL REVERSE AMOUNT CONTROL SIGNAL INPUT	SEE J.
38	(not used)	5.3V
39	(not used)	5.3V
40	(not used)	5.3V
41	RESET BUTTON SIGNAL INPUT	S508 (RESET) ON : 0V S508 (RESET) OFF : 5.3V
42	V_{CC}	5.3V

C. Serial-port Timing Pulses

IC501 pin 7 $\overline{SC/TO}$
IC502 pin 23 *SERIAL-DRIVE SIGNAL OUTPUT*
IC502 pin 7 $\overline{SC/TO}$

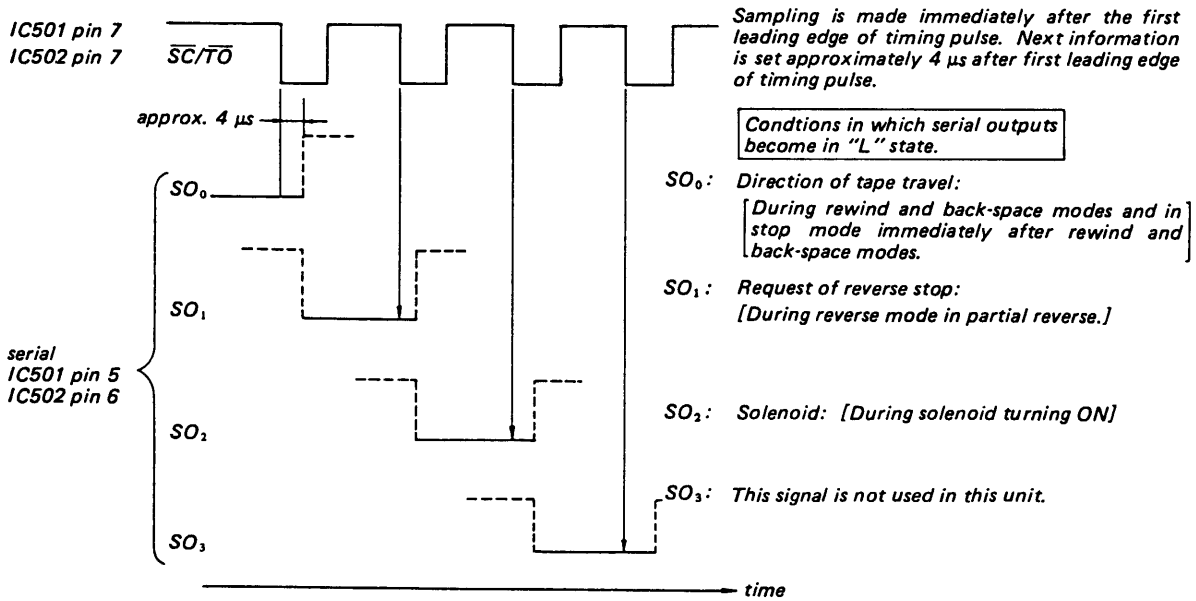
Serial-port timing pulses are sent from pin 23 of IC502 to pins 7 of IC501 and IC502.



D. Serial-port

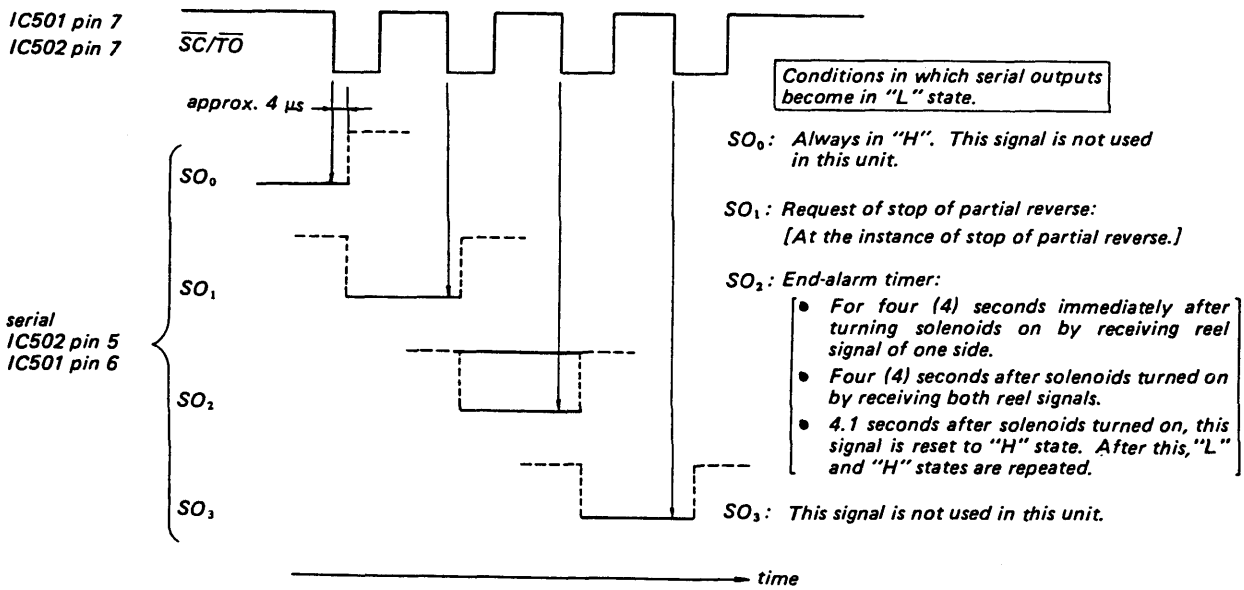
IC501 pin 5 *SO* *SERIAL OUTPUTS*
IC502 pin 6 *SI* *SERIAL INPUTS*

Information are transmitted from IC501 to IC502 by synchronizing with serial-port timing pulses.



E. Serial Port

IC502 pin 5 SO SERIAL OUTPUTS
IC501 pin 6 SI SERIAL INPUTS
} Information are transmitted from IC502 to IC501 by synchronizing with serial-port timing pulses.



Conditions in which serial outputs become in "L" state.

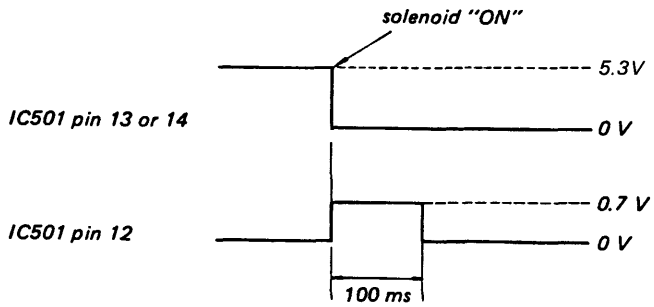
SO_0: Always in "H". This signal is not used in this unit.

SO_1: Request of stop of partial reverse:
[At the instance of stop of partial reverse.]

SO_2: End-alarm timer:
- For four (4) seconds immediately after turning solenoids on by receiving reel signal of one side.
- Four (4) seconds after solenoids turned on by receiving both reel signals.
- 4.1 seconds after solenoids turned on, this signal is reset to "H" state. After this, "L" and "H" states are repeated.

SO_3: This signal is not used in this unit.

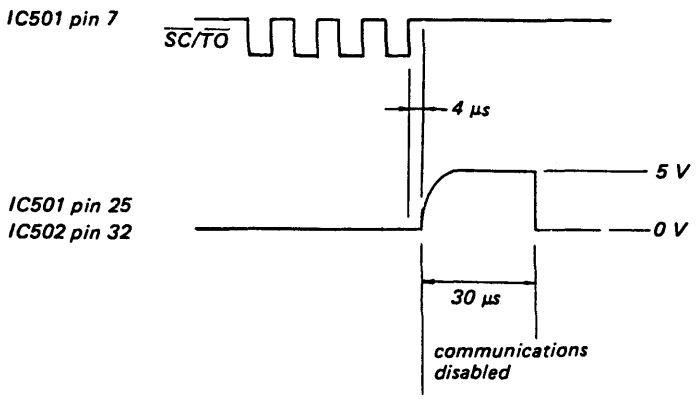
F. IC501 Pin 12 Solenoid Kick Output Signal



For about 100 ms, solenoid kick signal turns "ON" immediately after forward or fast-forward/rewind solenoid turned ON.

G.

IC501 pin 25 Timing signal output for IC502
IC502 pin 32 Timing signal input from IC501
} Disables communications, between IC501 and IC502, made by serial-port timing pulses SC/TO.

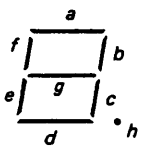


Immediately after completion of communications between IC501 and IC502 by SC/TO, pin 25 of IC501 and pin 32 of IC502 become in "H" state during which communications between them is disabled, and internal data processing is made in IC501. After internal data processing in IC501, this link recovers its "L" state, i.e. release of disabled communications.

H. Fluorescent Display Drive (Dynamic)

H-1) SEGMENTS

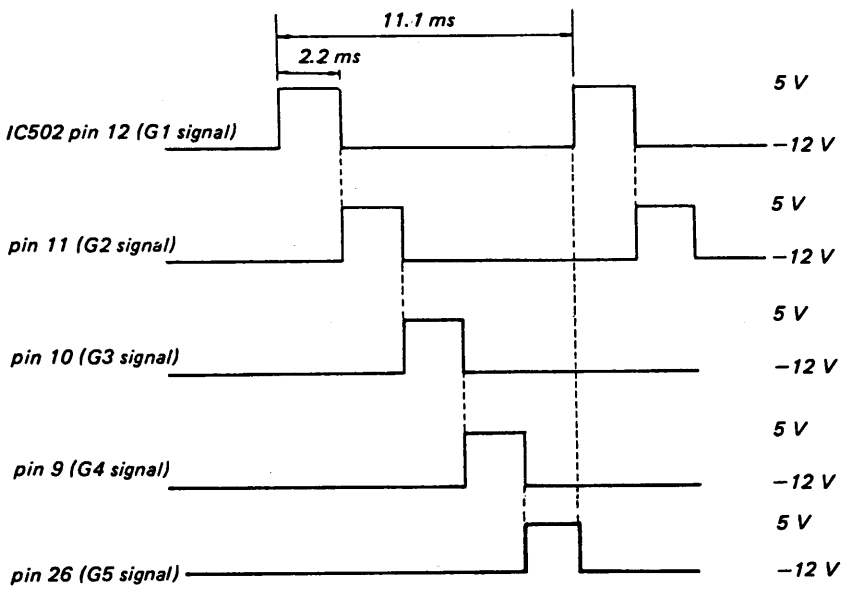
	IC502 Pin No.							
	13	14	15	16	17	18	19	20
Segment	a	b	c	d	e	f	g	h



H-2) GRIDS

Grid	G5	G4	G3	G2	G1
IC502 Pin No.	26	9	10	11	12

H-3) Relationship of Grid-drive Signals

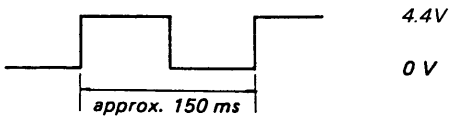


I. Detections of Take-up Reel and Supply Reel Signals

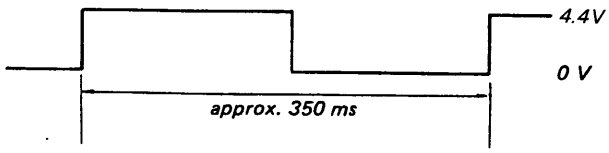
IC502 pin 30 TAKE-UP REEL
IC502 pin 31 SUPPLY REEL

- **Forward**

Take-up reel signal at start of tape and supply reel signal at end of tape, C-90.



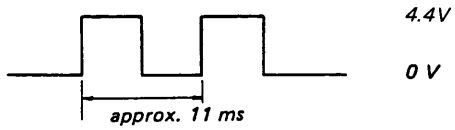
Supply reel signal at start of tape and take-up reel signal at end of tape, C-90.



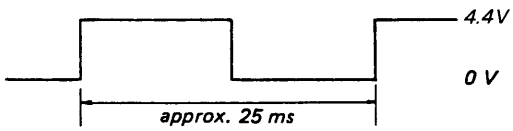
Repetition rate changes according to tape position.

- **Fast-forward and Rewind**

Take-up reel signal at start of tape and supply reel signal at end of tape, C-90.



Supply reel signal at start of tape and take-up reel signal at end of tape, C-90.



Repetition rate changes according to tape position.

J. Partial-reverse Amount Control-signal Inputs

Pin of IC502	REVERSE TIME (Digital) Switch S509	Position of S509									
		0	1	2	3	4	5	6	7	8	9
34	pin 1	H	L	H	L	H	L	H	L	H	L
35	pin 2	H	H	L	L	H	H	L	L	H	H
36	pin 3	H	H	H	H	L	L	L	L	H	H
37	pin 4	H	H	H	H	H	H	H	H	L	L

H = 5.3V
L = 0V

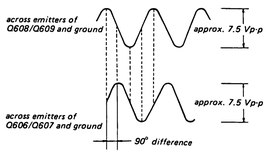
BM-76 BM-76

K. IC601 **(Servo Controller)**

CONDITIONS: SPEED CONTROL switch: OFF
MODE: FORWARD
TAPE: DC-90 put in

Pin	Function	
1	TIME CONSTANT	approx. 13 ms; 1.3 V; 0 V
2	TIME CONSTANT	0.8 V; 0.1 V
3	FREQUENCY GENERATOR INPUT	0.4 V; −0.6 V
4	GND	0 V
5	TIME CONSTANT	approx. 11 ms; 2.8 V; 1.5 V
6	OUTPUT	1.4 V; 0.5 V
7	Vcc	6.5 V
8	REGULATED VOLTAGE OUTPUT	2.2 V

L. Q606 thru Q609 **(Servo Output or Motor Driver)**



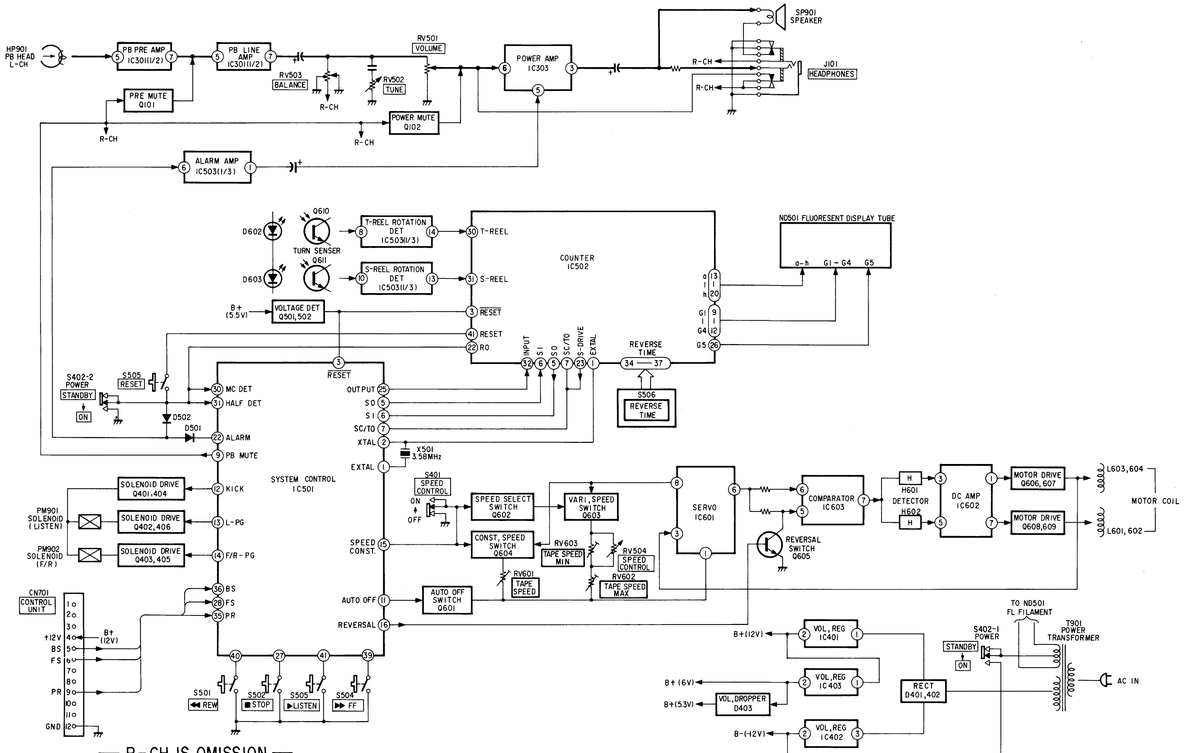
M. IC603 **(Comparator)**

Pin 7: About the same as pin 6 of IC601.

N. IC503 **(Alarm Amp/Cue Detector Amp/Reel-rotation Detector)**

Pin	Function	
1	ALARM OUTPUT	approx. 0.6 ms; 1 V; 0 V
6	ALARM CIRCUIT	ALARM OFF: 4.1 V; ALARM ON: 0.7 V, 0.3 V
7	ALARM CIRCUIT	ALARM OFF: 0.35 V
8	TAKE-UP REEL SIGNAL INPUT	5.2 V; 0 V
9	TAKE-UP REEL CIRCUIT	4.3 V; 0.9 V
14	TAKE-UP REEL SIGNAL OUTPUT	4.4 V; 0 V
		See I. detections of take-up reel and supply reel signals for repetition rates.
10	SUPPLY REEL SIGNAL INPUT	Same as pin 8 of IC503.
11	SUPPLY REEL CIRCUIT	Same as pin 9 of IC503.
13	SUPPLY REEL SIGNAL OUTPUT	Same as pin 14 of IC503.
3	B+	5.3 V
12	GND	0 V

5-2. BLOCK DIAGRAM



BM-76 BM-76

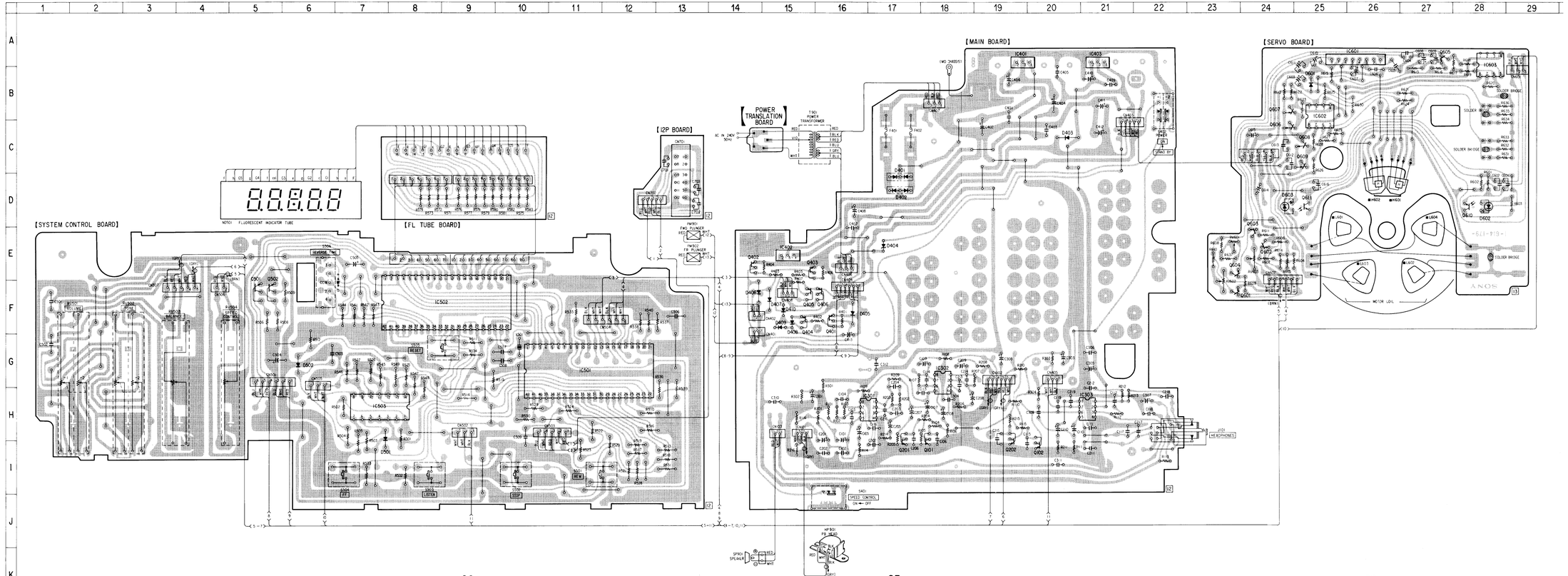
5-3. PRINTED WIRING BOARDS

Note:

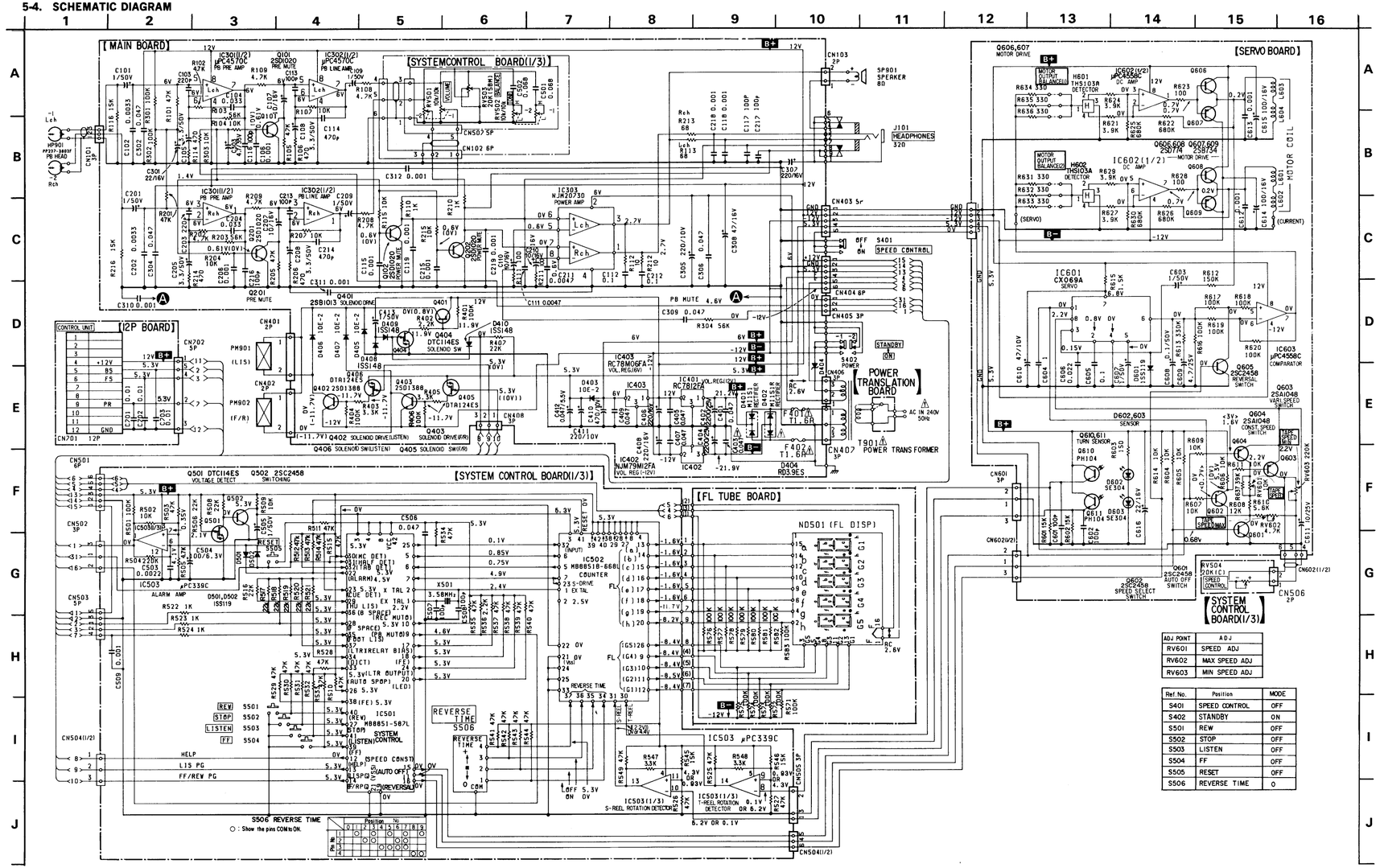
- ○—— : parts extracted from the component side.
- ●—— : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D401	D-17	IC602	B-25
D402	D-17	IC603	A-28
D403	C-20		
D404	E-17	Q101	I-18
D405	F-16	Q102	I-20
D406	F-14	Q201	I-17
D407	F-15	Q202	I-19
D408	F-15	Q401	F-16
D409	F-15	Q402	E-14
D410	F-15	Q403	E-15
D501	H-7	Q404	F-15
D502	G-6	Q405	F-15
D601	B-25	Q406	F-16
D602	D-28	Q501	F-5
D603	D-24	Q502	F-5
		Q601	F-23
IC301	H-16	Q602	E-24
IC302	G-18	Q603	E-24
IC303	H-21	Q604	E-23
IC401	A-19	Q605	A-27
IC402	E-15	Q606	C-24
IC403	A-21	Q607	B-24
IC501	G-11	Q608	C-25
IC502	F-8	Q609	C-25
IC503	H-7	Q610	D-28
IC601	A-26	Q611	D-25



5-4. SCHEMATIC DIAGRAM



5-5. SEMICONDUCTOR LEAD LAYOUTS

BA4560
NJM2073D
μPC4558C

NJM79M12FA

2SA1175
2SD1020

S3VC40R

CX069A

μPC339C

2SB734
2SD774

THS103A

L78M06
RC7812FA

DTA124ES
DTC114ES
2SC634SP

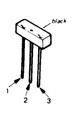
2SB1013
2SD1388

1SS119
RD3.9ES-B2

MB8851-587L
MB8851B-668L

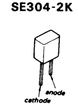
PH104

S3VC40



10E2

SE304-2K

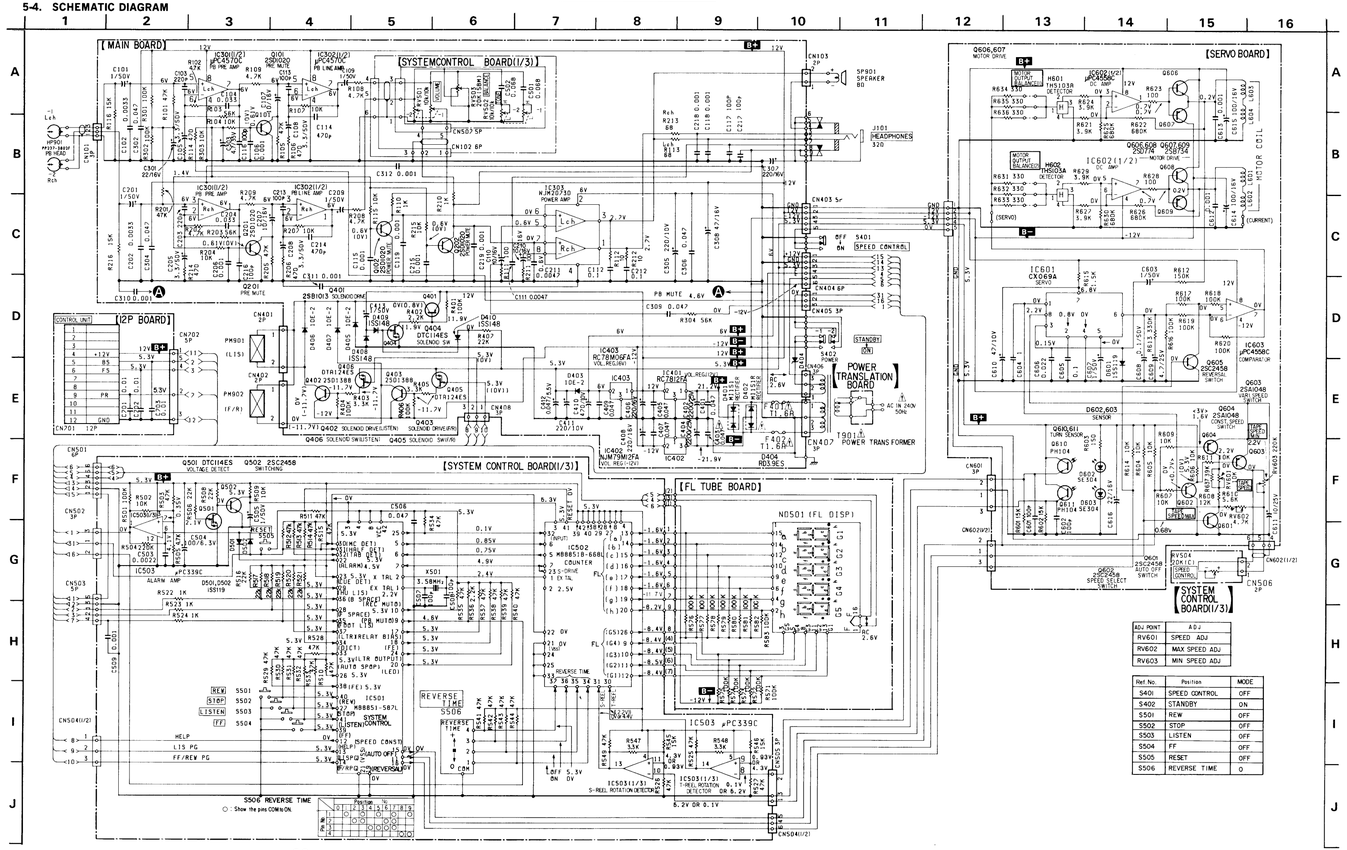


Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- ▭ : adjustment for repair.
- Voltages are taken with a VOM.(Input Impedance 10MΩ) Voltage variations may be noted due to normal production tolerances.
  no mark:STOP
  ( ) : LISTEN
  《 》: FF/REW
  〈 〉: SPEED CONTROL ON
- Signal path.
  ▷ : PB

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

5-4. SCHEMATIC DIAGRAM



ADJ POINT	ADJ
RV601	SPEED ADJ
RV602	MAX SPEED ADJ
RV603	MIN SPEED ADJ

Ref.No.	Position	MODE
S401	SPEED CONTROL	OFF
S402	STANDBY	ON
S501	REW	OFF
S502	STOP	OFF
S503	LISTEN	OFF
S504	FF	OFF
S505	RESET	OFF
S506	REVERSE TIME	0

5-5. SEMICONDUCTOR LEAD LAYOUTS

BA4560 NJM2073D μPC4558C

NJM79M12FA

2SA1175 2SD1020

S3VC40R

CX069A

μPC339C

2SB734 2SD774

THS103A

L78M06 RC7812FA

DTA124ES DTC114ES 2SC634SP

2SB1013 2SD1388

1SS119 RD3.9ES-B2

MB8851-587L MB8851B-668L

PH104

S3VC40

10E2

SE304-2K

Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- ▭ : adjustment for repair.
- Voltages are taken with a VOM.(Input Impedance 10MΩ) Voltage variations may be noted due to normal production tolerances.
  no mark STOP
  ( ) : LISTEN
  { } : FF/REW
  < > : SPEED CONTROL ON
- Signal path.
  ▷ : PB

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

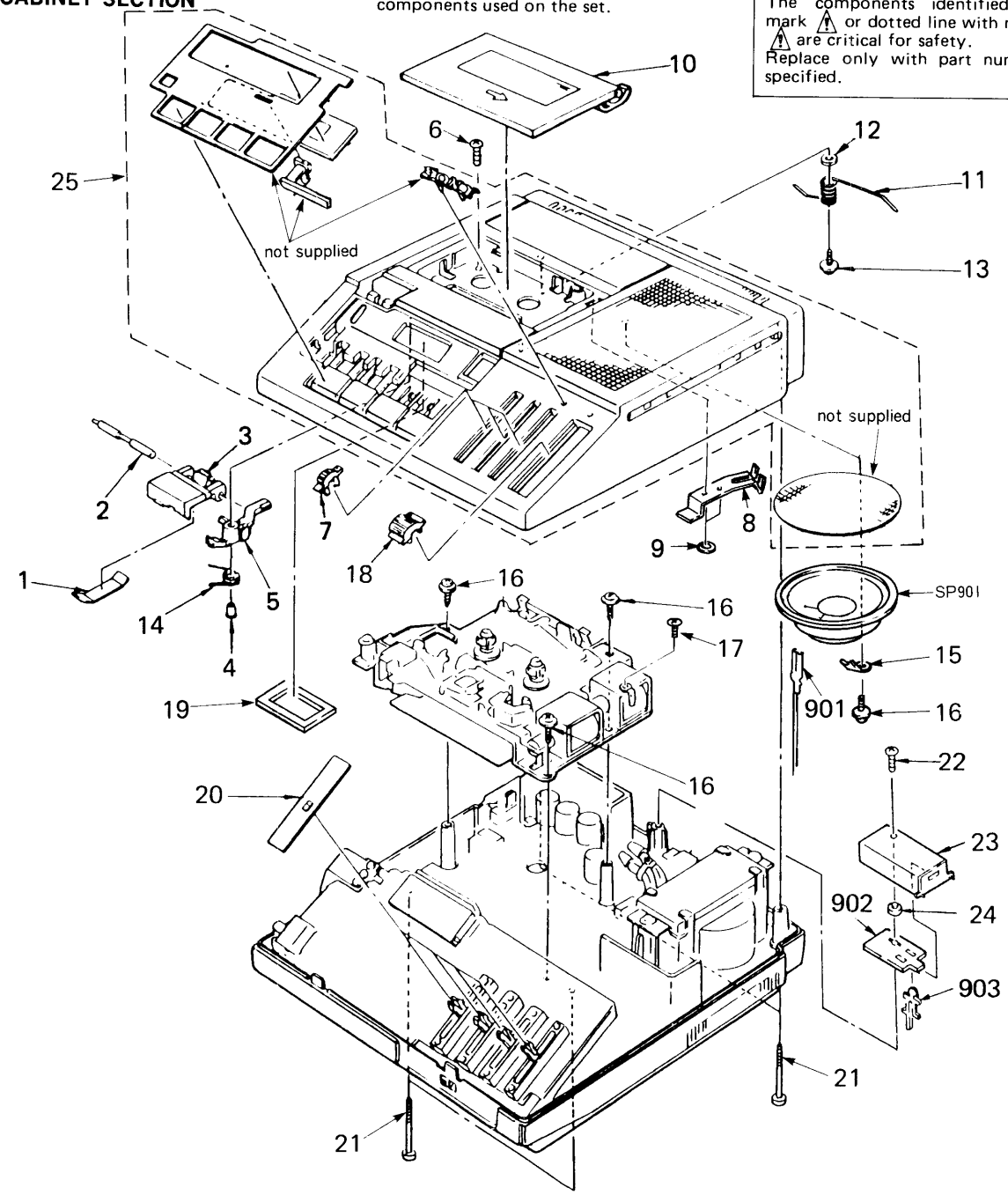
SECTION 6
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- 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.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
  Example:
  (RED) . . . KNOB, BALANCE (WHITE)
  ↑ Cabinet's Color ↑ Parts Color

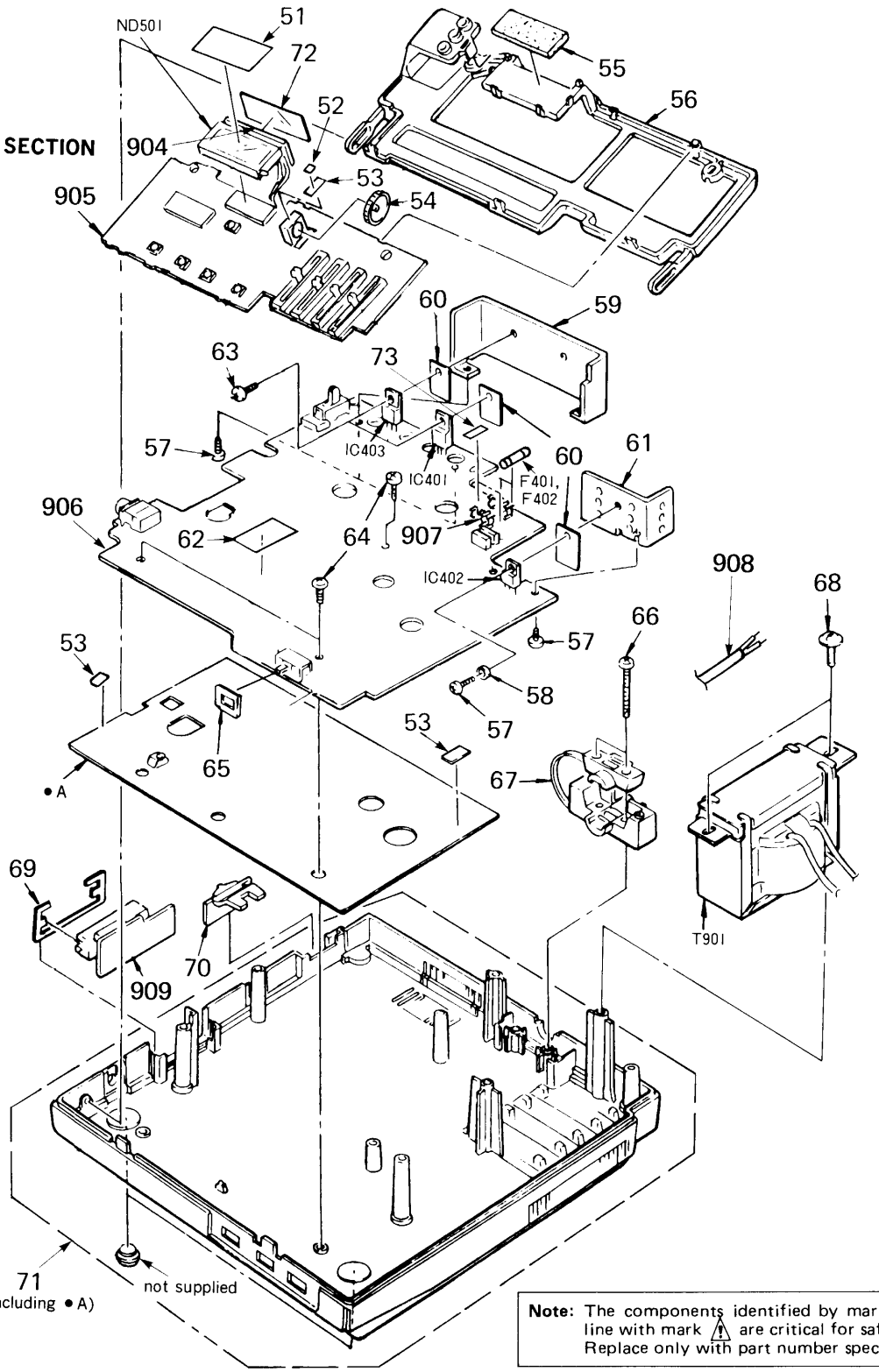
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

6-1. CABINET SECTION



Ref.No	Part No.	Description	Remarks
1	3-323-623-01	SPRING	
2	3-359-180-01	SHAFT, BUTTON	
3	3-323-583-21	BUTTON, EJECT	
4	*3-323-598-01	SLEEVE	
5	3-323-607-01	CLAW, CASSETTE LID	
6	7-621-770-67	SCREW +B 2.6X6	
7	3-323-562-01	KNOB (B)	
8	*3-323-589-01	SPRING, LEAF, ELECTROSTATIC	
9	7-624-200-11	NUT, PUSH 2	
10	X-3323-513-1	LID ASSY, CASSETTE	
11	3-323-567-01	SPRING	
12	3-669-117-61	SPACER, MOTOR	
13	7-685-646-79	SCREW,TOTSU PTPWH 3X8,TYPE2	
14	3-323-605-01	SPRING	
15	3-845-110-00	RETAINER, SPEAKER	
16	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
17	7-682-545-04	SCREW +P 3X4	
18	3-323-561-01	KNOB (A)	
19	*3-323-673-01	CUSHION (COUNTER)	
20	3-323-568-01	SHEET, CONTROL	
21	3-846-072-00	SCREW, TAPPING, +P 3X48	
22	7-687-238-21	SCREW,TOTSU PTPWH 2.6X16, TYPE2	
23	*3-323-615-01	COVER, POWER	
24	*3-323-614-01	TABLE, FITTING, COVER	
25	X-3323-530-1	CABINET (FRONT) ASSY	
901	1-535-047-00	FASTEN RECEPTACLE	
902	*1-615-361-11	PC BOARD, POWER TRANSLATION	
903	1-535-416-00	TERMINAL	
SP901	1-503-393-11	SPEAKER	

6-2. BOARDS SECTION

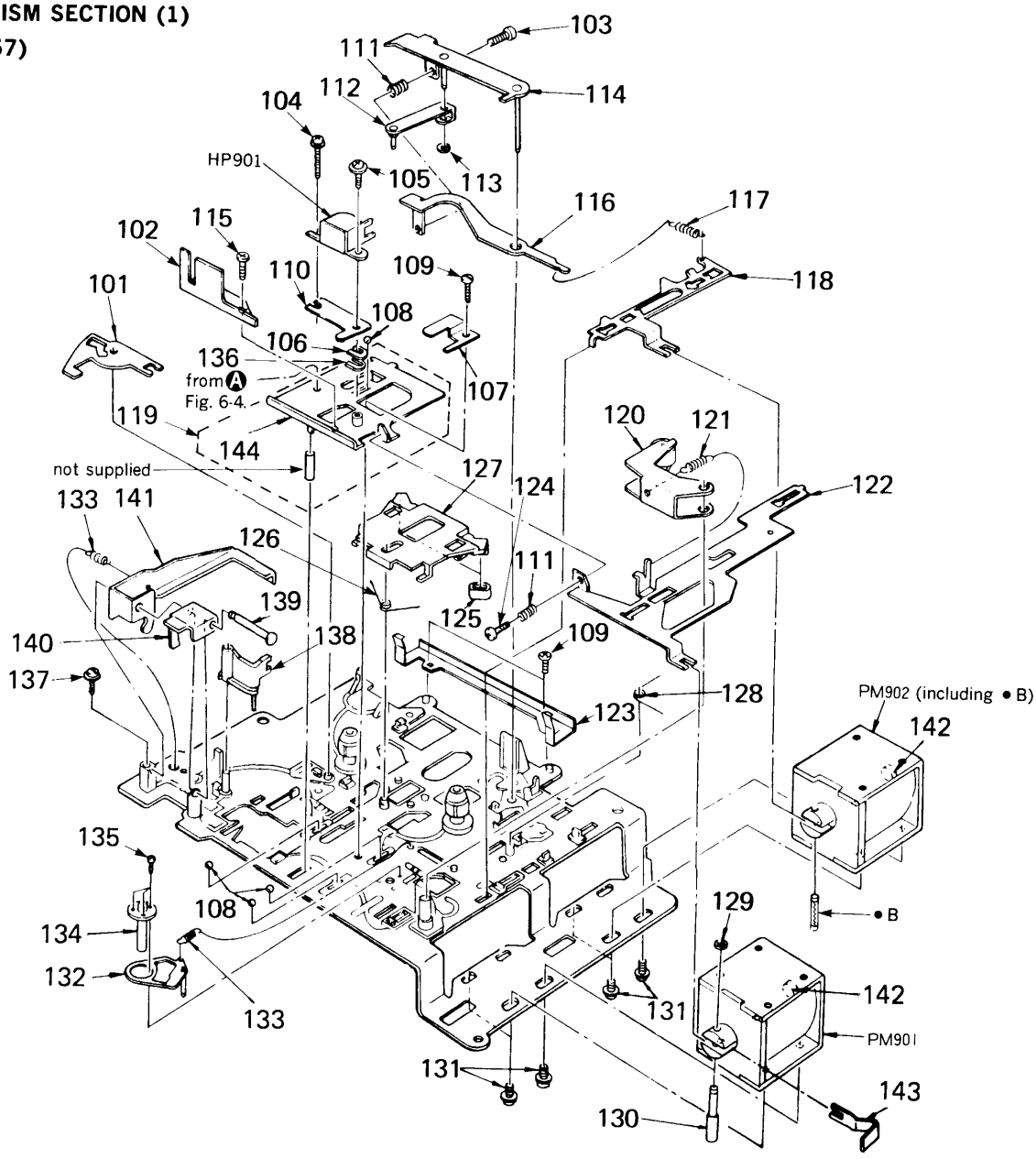


Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Ref.No	Part No.	Description	Remarks
51	*3-323-576-01	SHEET, PANEL	
52	3-485-330-21	FELT	
53	3-831-441-11	CUSHION (B)	
54	3-323-559-01	KNOB, REVERSE	
55	9-911-815-01	CUSHION	
56	3-323-580-01	FRAME	
57	7-621-770-67	SCREW +B 2.6X6	
58	2-832-007-00	BUSHING K, INSULATE	
59	*3-323-577-01	HEAT SINK (A)	
60	4-391-336-01	SHEET, INSULATING	
61	*3-323-578-01	HEAT SINK (B)	
62	3-831-441-99	CUSHION, STOPPER	
63	7-621-773-86	SCREW +B2.6X4	
64	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
65	*3-323-664-01	PLATE (B), BLIND	
66	7-685-139-29	SCREW, TAPPING, (M2.6X20)	
67	.3-556-081-00	RETAINER (B), CORD	
68	7-687-264-11	SCREW,TOTSU PTPWH 4X10,TYPE2	

Ref.No	Part No.	Description	Remarks
69	*3-323-566-01	BRACKET, 12P CONNECTOR	
70	3-323-573-01	KNOB, POWER SWITCH	
71	A-3040-845-A	CABINET (LOWER) ASSY	
72	*3-323-666-01	SPACER	
73	3-701-947-13	LABEL (T1.6A), FUSE	
904	*1-624-157-11	PC BOARD, FL TUBE	
905	*A-3089-308-A	MOUNTED PCB, SYSTEM CONTROL	
906	*A-3015-750-A	MOUNTED PCB, MAIN	
907	*1-533-189-11	HOLDER, FUSE	
908	⚠1-555-841-00	CORD, POWER SUPPLY	
909	*1-624-155-11	PC BOARD, 12P	
F401	⚠1-532-259-00	FUSE, TIME-LAG (T1.6A)	
F402	⚠1-532-259-00	FUSE, TIME-LAG (T1.6A)	
IC401	8-759-982-13	IC RC7812FA	
IC402	8-759-701-69	IC NJM79M12FA	
IC403	8-759-982-32	IC RC78M06FA	
ND501	1-519-328-11	INDICATOR TUBE, FLUORESCENT	
T901	⚠1-448-116-11	TRANSFORMER, POWER	

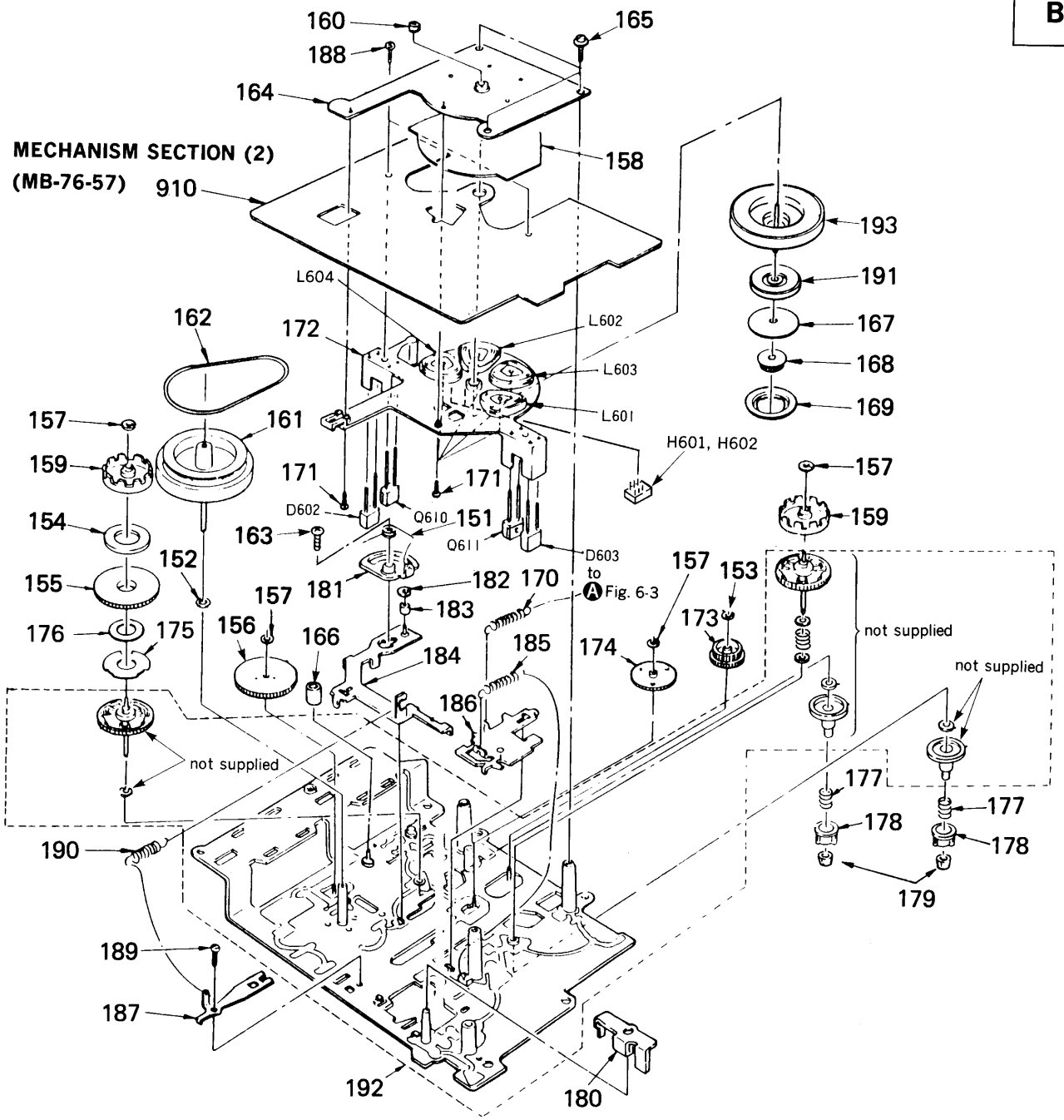
6-3. MECHANISM SECTION (1)
(MB-76-57)



Ref.No	Part No.	Description	Remarks
101	*3-323-518-01	PLATE, PREVENTION, EJECT	
102	*3-323-618-01	CLAMP (R/P)	
103	7-621-255-55	SCREW, LOCK	
104	7-627-553-77	SCREW,PRECISION P 2X10	
105	7-627-554-17	SCREW,PRECISION P 2X3.5 TYPE1	
106	3-578-138-01	SHIM (t=0.1)	
	3-578-138-11	SHIM (t=0.2)	
	3-578-138-21	SHIM (t=0.3)	
107	3-323-520-01	SPRING	
108	7-671-111-11	STEEL, BOUL 1.5MM	
109	7-621-775-10	SCREW +B 2.6X4	
110	*3-323-620-01	SPRING	
111	3-308-534-00	SPRING, COMPRESSION	
112	X-3323-507-1	LEVER ASSY, F/R	
113	3-321-483-11	RING, RETAINING	
114	*X-3323-509-1	ARM ASSY, F/R	
115	7-627-553-27	SCREW,PRECISION +P 2X2.5	
116	*3-323-512-01	PLATE, ADJUSTMENT, F/R	
117	3-323-657-01	SPRING, TENSION	
118	3-323-542-01	LEVER, FUNCTION, F/R	
119	*X-3323-527-1	CHASSIS (R/P) ASSY, HEAD	
120	X-3323-503-1	PINCH LEVER ASSY	
121	3-527-189-00	SPRING, TENSION	
122	3-323-553-01	LEVER, FWD	
123	*3-323-647-01	RETAINER (A), CASSETTE	

Ref.No	Part No.	Description	Remarks
124	7-621-772-30	SCREW +B 2X6	
125	3-323-596-01	RUBBER, BRAKE	
126	3-323-508-01	SPRING	
127	*3-323-511-01	LEVER, BRAKE	
128	3-323-522-01	SPRING	
129	3-307-948-21	WASHER, NYLON	
130	*3-323-535-01	SHAFT, JOINT	
131	7-682-647-09	SCREW +PSW 3X6	
132	X-3323-501-1	LEVER ASSY, F.I	
133	3-509-127-00	SPRING, TENSION	
134	3-323-503-01	BEARING, CAPSTAN	
135	7-627-551-58	SCREW,PRECISION +P 1.4X3	
136	3-578-138-11	SHIM (t=0.2)	
137	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
138	3-323-521-01	GUIDE, TAPE	
139	3-323-551-01	SHAFT, FULCRUM, EJECT	
140	*3-323-550-01	LEVER (C), EJECT	
141	3-323-525-01	LEVER (B), EJECT	
142	3-323-645-01	STOPPER	
143	3-323-606-01	SPRING	
144	*3-323-617-01	CHASSIS (R/P), HEAD	
HP901	1-543-337-11	HEAD, MAGNETIC (REC/PB)	
PM901	1-454-385-11	PLUNGER	
PM902	1-454-385-11	PLUNGER	

6-4. MECHANISM SECTION (2) (MB-76-57)



Ref.No	Part No.	Description	Remarks
151	3-323-587-01	SPRING	
152	3-701-437-01	WASHER	
153	3-321-483-11	RING, RETAINING	
154	3-307-313-00	PLATE, YOKE	
155	3-307-953-00	MAGNET, REEL TABLE	
156	3-323-540-01	IDLER, FWD	
157	3-307-948-01	WASHER, NYLON	
158	3-323-601-01	SHEET, INSULATING, COIL	
159	3-323-541-01	PLATE	
160	3-547-625-00	SCREW, THRUST ADJUST	
161	3-323-504-01	FLYWHEEL	
162	3-323-526-01	BELT	
163	3-342-759-01	SCREW (B1.7X6), TAPPING	
164	*X-3323-502-1	CHASSIS ASSY, STATOR	
165	7-685-133-19	SCREW +BTP 2.6X6 TYPE2 N-S	
166	3-319-662-01	RUBBER, BRAKE	
167	3-323-656-01	WASHER	
168	3-323-515-01	GEAR, M	
169	3-323-655-01	PLATE, CLUTCH	
170	3-305-903-00	SPRING, TENSION	
171	3-323-501-01	SCREW (M1.4X3)	
172	*3-323-552-01	BRACKET, COIL	
173	3-323-516-01	GEAR (A), F/R	
174	3-323-539-01	GEAR (B), F/R	
175	3-561-827-00	PLATE (A), HYSTERESIS	
176	3-307-493-01	SPACER (t=0.10)	
	3-307-493-11	SPACER (t=0.15)	
	3-307-493-21	SPACER (t=0.20)	
	3-307-493-31	SPACER (t=0.25)	
	3-307-493-41	SPACER (t=0.30)	
	3-307-493-51	SPACER (t=0.35)	
177	3-307-380-00	SPRING, COMPRESSION	
178	3-307-363-00	CLAW (N), REEL	
179	3-307-362-00	CAP, REEL	
180	3-323-524-01	LEVER (A), EJECT	
181	X-3323-506-1	CAM ASSY, S	
182	3-570-615-00	POLY-WASHER (DIA.1.2)	
183	3-323-534-01	ROLLER (S LEVER)	
184	X-3323-510-1	LEVER ASSY, S	
185	3-701-788-99	SPRING, TENSION	
186	*3-323-506-01	CHASSIS (E), HEAD	
187	X-3323-504-1	SPRING ASSY, LOCK	
188	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
189	3-703-502-01	SCREW	
190	4-858-478-00	SPRING, TENSION	
191	3-310-071-21	TABLE, REEL (M)	
192	X-3315-028-1	CHASSIS ASSY, DECK	
193	X-3323-514-1	MAGNET ASSY, ROTOR	
910	*A-3065-065-A	MOUNTED PCB, SERVO	
D602	8-719-103-15	DIODE SE304-2K	
D603	8-719-103-15	DIODE SE304-2K	
H601	8-719-800-18	DIODE THS103A	
H602	8-719-800-18	DIODE THS103A	
L601	1-462-196-21	COIL, MOTOR (STATOR)	
L602	1-462-196-21	COIL, MOTOR (STATOR)	
L603	1-462-196-21	COIL, MOTOR (STATOR)	
L604	1-462-196-21	COIL, MOTOR (STATOR)	
Q610	8-729-102-10	TRANSISTOR PH104	
Q611	8-729-102-10	TRANSISTOR PH104	

Ver 1.1 2001. 07

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- 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: μμF.

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 mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

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

Ref.No	Part No.	Description
901	1-535-047-00	FASTEN RECEPTACLE
902	*1-615-361-11	PC BOARD, POWER TRANSLATION
903	1-535-416-00	TERMINAL
904	*1-624-157-11	PC BOARD, FL TUBE
905	*A-3089-308-A	MOUNTED PCB, SYSTEM CONTROL
906	*A-3015-750-A	MOUNTED PCB, MAIN
907	*1-533-189-11	HOLDER, FUSE
908	⚠1-555-841-00	CORD, POWER SUPPLY
909	*1-624-155-11	PC BOARD, 12P
910	*A-3065-065-A	MOUNTED PCB, SERVO

CAPACITOR

C101	1-124-438-00	ELECT	1MF	20%	50V
C102	1-161-045-00	CERAMIC	0.0033MF	5%	25V
C103	1-162-286-31	CERAMIC	220PF	10%	50V
C104	1-161-057-00	CERAMIC	0.033MF	10%	25V
C105	1-126-162-11	ELECT	3.3MF	20%	50V
C106	1-162-294-31	CERAMIC	0.001MF	10%	50V
C107	1-126-157-11	ELECT	10MF	20%	16V
C108	1-126-162-11	ELECT	3.3MF	20%	50V
C109	1-124-438-00	ELECT	1MF	20%	50V
C110	1-126-157-11	ELECT	10MF	20%	16V
C111	1-161-047-00	CERAMIC	0.0047MF	10%	25V
C112	1-161-772-11	CERAMIC	0.1MF	10%	25V
C113	1-162-282-31	CERAMIC	100PF	10%	50V
C114	1-162-290-31	CERAMIC	470PF	10%	50V
C115	1-162-294-31	CERAMIC	0.001MF	10%	50V
C116	1-162-282-31	CERAMIC	100PF	10%	50V
C117	1-162-282-31	CERAMIC	100PF	10%	50V
C118	1-162-294-31	CERAMIC	0.001MF	10%	50V
C119	1-162-294-31	CERAMIC	0.001MF	10%	50V
C201	1-124-438-00	ELECT	1MF	20%	50V
C202	1-161-045-00	CERAMIC	0.0033MF	5%	25V
C203	1-162-286-31	CERAMIC	220PF	10%	50V
C204	1-161-057-00	CERAMIC	0.033MF	10%	25V
C205	1-126-162-11	ELECT	3.3MF	20%	50V
C206	1-162-294-31	CERAMIC	0.001MF	10%	50V
C207	1-126-157-11	ELECT	10MF	20%	16V
C208	1-126-162-11	ELECT	3.3MF	20%	50V
C209	1-124-438-00	ELECT	1MF	20%	50V
C210	1-126-157-11	ELECT	10MF	20%	16V
C211	1-161-047-00	CERAMIC	0.0047MF	10%	25V
C212	1-161-772-11	CERAMIC	0.1MF	10%	25V
C213	1-162-282-31	CERAMIC	100PF	10%	50V
C214	1-162-290-31	CERAMIC	470PF	10%	50V
C215	1-162-294-31	CERAMIC	0.001MF	10%	50V
C216	1-162-282-31	CERAMIC	100PF	10%	50V
C217	1-162-282-31	CERAMIC	100PF	10%	50V
C218	1-162-294-31	CERAMIC	0.001MF	10%	50V
C219	1-162-294-31	CERAMIC	0.001MF	10%	50V
C301	1-124-234-00	ELECT	22MF	20%	16V
C302	1-161-021-11	CERAMIC	0.047MF	10%	25V
C303	1-126-094-11	ELECT	4.7MF	20%	35V
C304	1-161-021-11	CERAMIC	0.047MF	10%	25V
C305	1-126-176-11	ELECT	220MF	20%	10V

Ref.No	Part No.	Description
C306	1-161-021-11	CERAMIC 0.047MF 10% 25V
C307	1-124-120-11	ELECT 220MF 20% 16V
C308	1-124-589-11	ELECT 47MF 20% 16V
C309	1-161-021-11	CERAMIC 0.047MF 10% 25V
C310	1-162-294-31	CERAMIC 0.001MF 10% 50V
C311	1-162-294-31	CERAMIC 0.001MF 10% 50V
C312	1-162-294-31	CERAMIC 0.001MF 10% 50V
C401	1-161-021-11	CERAMIC 0.047MF 10% 25V
C402	1-124-563-11	ELECT 2200MF 20% 25V
C403	1-161-021-11	CERAMIC 0.047MF 10% 25V
C404	1-124-563-11	ELECT 2200MF 20% 25V
C405	1-161-021-11	CERAMIC 0.047MF 10% 25V
C406	1-124-120-11	ELECT 220MF 20% 16V
C407	1-161-021-11	CERAMIC 0.047MF 10% 25V
C408	1-124-120-11	ELECT 220MF 20% 16V
C409	1-161-021-11	CERAMIC 0.047MF 10% 25V
C410	1-124-472-11	ELECT 470MF 20% 10V
C411	1-126-176-11	ELECT 220MF 20% 10V
C412	1-125-562-11	ELECT 0.047F 5.5V
C413	1-124-438-00	ELECT 1MF 20% 50V
C501	1-161-061-11	CERAMIC 0.068MF 10% 25V
C502	1-161-061-11	CERAMIC 0.068MF 10% 25V
C503	1-130-475-00	MYLAR 0.0022MF 5% 50V
C504	1-126-177-11	ELECT 100MF 20% 6.3V
C505	1-124-438-00	ELECT 1MF 20% 50V
C506	1-161-021-11	CERAMIC 0.047MF 20% 25V
C507	1-162-282-31	CERAMIC 100PF 10% 50V
C508	1-162-282-31	CERAMIC 100PF 10% 50V
C509	1-162-294-31	CERAMIC 0.001MF 10% 50V
C601	1-102-106-00	CERAMIC 100PF 10% 50V
C602	1-102-106-00	CERAMIC 100PF 10% 50V
C603	1-124-438-00	ELECT 1MF 20% 50V
C604	1-136-177-00	FILM 1MF 5% 50V
C605	1-136-165-00	MYLAR 0.1MF 10% 50V
C606	1-161-055-00	CERAMIC 0.022MF 20% 25V
C607	1-124-438-00	ELECT 1MF 20% 50V
C608	1-124-463-00	ELECT 0.1MF 20% 50V
C609	1-126-094-11	ELECT 4.7MF 20% 25V
C610	1-124-589-11	ELECT 47MF 20% 10V
C611	1-126-096-11	ELECT 10MF 20% 25V
C612	1-162-853-00	CERAMIC 0.001MF 20% 16V
C613	1-162-853-00	CERAMIC 0.001MF 20% 16V
C614	1-126-180-00	ELECT 100MF 20% 16V
C615	1-126-180-00	ELECT 100MF 20% 16V
C616	1-124-234-00	ELECT 22MF 20% 16V
C701	1-161-051-00	CERAMIC 0.01MF 20% 25V
C702	1-161-051-00	CERAMIC 0.01MF 20% 25V
C703	1-161-051-00	CERAMIC 0.01MF 20% 25V
CN401	1-506-467-11	PIN, CONNECTOR 2P
CN402	1-506-467-11	PIN, CONNECTOR 2P
CN406	*1-508-742-00	PIN, CONNECTOR 3P
CN407	*1-508-742-00	PIN, CONNECTOR 3P
CN701	*1-561-533-00	SOCKET, CONNECTOR 12P
CNJ101	*1-562-148-11	HOUSING, CONNECTOR 3P

Ref.No	Part No.	Description
CNJ102	*1-562-151-11	HOUSING, CONNECTOR 6P
CNJ103	*1-562-147-11	HOUSING, CONNECTOR 2P
CNJ403	*1-562-150-11	HOUSING, CONNECTOR 5P
CNJ404	*1-562-151-11	HOUSING, CONNECTOR 6P
CNJ405	*1-562-148-11	HOUSING, CONNECTOR 3P
CNJ408	*1-562-148-11	HOUSING, CONNECTOR 3P
CNJ501	*1-562-151-11	HOUSING, CONNECTOR 6P
CNJ502	*1-562-148-11	HOUSING, CONNECTOR 3P
CNJ503	*1-562-150-11	HOUSING, CONNECTOR 5P
CNJ504	*1-562-151-11	HOUSING, CONNECTOR 6P
CNJ505	*1-562-148-11	HOUSING, CONNECTOR 3P
CNJ506	*1-562-147-11	HOUSING, CONNECTOR 2P
CNJ507	*1-562-150-11	HOUSING, CONNECTOR 5P
CNJ601	*1-562-148-11	HOUSING, CONNECTOR 3P
CNJ602	*1-562-151-11	HOUSING, CONNECTOR 6P
CNJ702	*1-562-150-11	HOUSING, CONNECTOR 5P
CNP101	1-506-468-11	PIN, CONNECTOR 3P
CNP102	1-506-471-11	PIN, CONNECTOR 6P
CNP103	*1-506-467-11	PIN, CONNECTOR 2P
CNP403	1-506-470-11	PIN, CONNECTOR 5P
CNP404	*1-506-471-11	PIN, CONNECTOR 6P
CNP405	1-506-468-11	PIN, CONNECTOR 3P
CNP408	1-506-468-11	PIN, CONNECTOR 3P
CNP501	1-506-485-11	PIN, CONNECTOR 6P
CNP502	1-506-482-11	PIN, CONNECTOR 3P
CNP503	1-506-484-11	PIN, CONNECTOR 5P
CNP504	*1-506-471-11	PIN, CONNECTOR 6P
CNP505	1-506-482-11	PIN, CONNECTOR 3P
CNP506	*1-506-481-11	PIN, CONNECTOR 2P
CNP507	1-506-484-11	PIN, CONNECTOR 5P
CNP601	1-506-482-11	PIN, CONNECTOR 3P
CNP602	1-506-485-11	PIN, CONNECTOR 6P
CNP702	1-506-484-11	PIN, CONNECTOR 5P
D401 ⚠	8-719-500-34	DIODE S3VC40
D402 ⚠	8-719-501-34	DIODE S3VC40R
D403	8-719-200-02	DIODE 10E2
D404	8-719-109-71	DIODE RD3.9ES-B1
D405	8-719-200-02	DIODE 10E2
D406	8-719-200-02	DIODE 10E2
D407	8-719-200-02	DIODE 10E2
D408	8-719-911-19	DIODE 1SS119
D409	8-719-911-19	DIODE 1SS119
D410	8-719-911-19	DIODE 1SS119
D501	8-719-911-19	DIODE 1SS119
D502	8-719-911-19	DIODE 1SS119
D601	8-719-911-19	DIODE 1SS119
D602	8-719-103-15	DIODE SE304-2K
D603	8-719-103-15	DIODE SE304-2K
F401 ⚠	1-532-259-00	FUSE, TIME-LAG (T1.6A)
F402 ⚠	1-532-259-00	FUSE, TIME-LAG (T1.6A)
H601	8-719-800-18	DIODE THS103A
H602	8-719-800-18	DIODE THS103A
HP901	1-543-337-11	HEAD, MAGNETIC (REC/PB)
IC301	8-759-106-41	IC UPC4570C
IC302	8-759-106-41	IC UPC4570C
IC303	8-759-701-54	IC NJM2073D
IC401	8-759-982-13	IC RC7812FA
IC402	8-759-700-24	IC NJM79M12A
IC403	8-759-982-32	IC RC78M06FA
IC501	8-759-920-88	IC MB8851-587L
IC502	8-759-924-78	IC MB8851B-668L
IC503	8-759-133-90	IC UPC339C
IC601	8-759-600-69	IC CX069A
IC602	8-759-145-58	IC UPC4558C
IC603	8-759-145-58	IC UPC4558C
J101	1-562-837-11	JACK (HEADPHONES)
L601	1-462-196-21	COIL, MOTOR (STATOR)
L602	1-462-196-21	COIL, MOTOR (STATOR)
L603	1-462-196-21	COIL, MOTOR (STATOR)
L604	1-462-196-21	COIL, MOTOR (STATOR)
ND501	1-519-328-11	INDICATOR TUBE, FLUORESCENT
PM901	1-454-385-11	PLUNGER
PM902	1-454-385-11	PLUNGER
Q101	8-729-102-03	TRANSISTOR 2SD1020
Q102	8-729-102-03	TRANSISTOR 2SD1020
Q201	8-729-102-03	TRANSISTOR 2SD1020
Q202	8-729-102-03	TRANSISTOR 2SD1020
Q401	8-729-801-83	TRANSISTOR 2SB1013
Q402	8-729-802-34	TRANSISTOR 2SD1388
Q403	8-729-802-34	TRANSISTOR 2SD1388
Q404	8-729-900-80	TRANSISTOR DTC114ES
Q405	8-729-900-63	TRANSISTOR DTA124ES
Q406	8-729-900-63	TRANSISTOR DTA124ES
Q501	8-729-900-80	TRANSISTOR DTC114ES
Q502	8-729-119-78	TRANSISTOR 2SC2785
Q601	8-729-119-78	TRANSISTOR 2SC2785
Q602	8-729-119-78	TRANSISTOR 2SC2785
Q603	8-729-204-83	TRANSISTOR 2SA1048-GR
Q604	8-729-204-83	TRANSISTOR 2SA1048-GR
Q605	8-729-119-78	TRANSISTOR 2SC2785
Q606	8-729-177-42	TRANSISTOR 2SD774-3
Q607	8-729-140-97	TRANSISTOR 2SB734-34
Q608	8-729-177-42	TRANSISTOR 2SD774-3
Q609	8-729-140-97	TRANSISTOR 2SB734-34
Q610	8-729-102-10	TRANSISTOR PH104
Q611	8-729-102-10	TRANSISTOR PH104

RESISTOR

R101	1-249-437-11	CARBON	47K	5%	1/4W
R102	1-249-425-11	CARBON	4.7K	5%	1/4W
R103	1-249-438-11	CARBON	56K	5%	1/4W
R104	1-249-429-11	CARBON	10K	5%	1/4W
R105	1-249-437-11	CARBON	47K	5%	1/4W
R106	1-249-413-11	CARBON	470	5%	1/4W
R107	1-249-429-11	CARBON	10K	5%	1/4W
R108	1-249-425-11	CARBON	4.7K	5%	1/4W
R109	1-249-425-11	CARBON	4.7K	5%	1/4W
R110	1-249-417-11	CARBON	1K	5%	1/4W
R111	1-249-405-11	CARBON	100	5%	1/4W
R112	1-249-393-11	CARBON	10	5%	1/4W
R113	1-249-403-11	CARBON	68	5%	1/4W
R114	1-249-413-11	CARBON	470	5%	1/4W
R115	1-249-429-11	CARBON	10K	5%	1/4W
R116	1-249-431-11	CARBON	15K	5%	1/4W
R201	1-249-437-11	CARBON	47K	5%	1/4W
R202	1-249-425-11	CARBON	4.7K	5%	1/4W
R203	1-249-438-11	CARBON	56K	5%	1/4W
R204	1-249-429-11	CARBON	10K	5%	1/4W
R205	1-249-437-11	CARBON	47K	5%	1/4W
R206	1-249-413-11	CARBON	470	5%	1/4W
R207	1-249-429-11	CARBON	10K	5%	1/4W
R208	1-249-425-11	CARBON	4.7K	5%	1/4W
R209	1-249-425-11	CARBON	4.7K	5%	1/4W
R210	1-249-417-11	CARBON	1K	5%	1/4W
R211	1-249-405-11	CARBON	100	5%	1/4W
R212	1-249-393-11	CARBON	10	5%	1/4W

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

Ref.No	Part No.	Description			
R213	1-249-403-11	CARBON	68	5%	1/4W
R214	1-249-413-11	CARBON	470	5%	1/4W
R215	1-249-429-11	CARBON	10K	5%	1/4W
R216	1-249-431-11	CARBON	15K	5%	1/4W
R301	1-249-441-11	CARBON	100K	5%	1/4W
R302	1-249-441-11	CARBON	100K	5%	1/4W
R303	1-249-429-11	CARBON	10K	5%	1/4W
R304	1-249-438-11	CARBON	56K	5%	1/4W
R401	1-249-441-11	CARBON	100K	5%	1/4W
R402	1-249-421-11	CARBON	2.2K	5%	1/4W
R403	1-249-423-11	CARBON	3.3K	5%	1/4W
R404	1-249-441-11	CARBON	100K	5%	1/4W
R405	1-249-423-11	CARBON	3.3K	5%	1/4W
R406	1-249-441-11	CARBON	100K	5%	1/4W
R407	1-249-433-11	CARBON	22K	5%	1/4W
R501	1-249-441-11	CARBON	100K	5%	1/4W
R502	1-249-429-11	CARBON	10K	5%	1/4W
R503	1-249-437-11	CARBON	47K	5%	1/4W
R504	1-247-887-00	CARBON	220K	5%	1/4W
R505	1-249-425-11	CARBON	4.7K	5%	1/4W
R506	1-249-433-11	CARBON	22K	5%	1/4W
R508	1-249-433-11	CARBON	22K	5%	1/4W
R509	1-249-429-11	CARBON	10K	5%	1/4W
R510	1-249-437-11	CARBON	47K	5%	1/4W
R511	1-249-437-11	CARBON	47K	5%	1/4W
R512	1-249-437-11	CARBON	47K	5%	1/4W
R513	1-249-437-11	CARBON	47K	5%	1/4W
R514	1-249-437-11	CARBON	47K	5%	1/4W
R515	1-249-437-11	CARBON	47K	5%	1/4W
R516	1-249-433-11	CARBON	22K	5%	1/4W
R517	1-249-433-11	CARBON	22K	5%	1/4W
R518	1-249-433-11	CARBON	22K	5%	1/4W
R519	1-249-433-11	CARBON	22K	5%	1/4W
R520	1-249-433-11	CARBON	22K	5%	1/4W
R521	1-249-433-11	CARBON	22K	5%	1/4W
R522	1-249-417-11	CARBON	1K	5%	1/4W
R523	1-249-417-11	CARBON	1K	5%	1/4W
R524	1-249-417-11	CARBON	1K	5%	1/4W
R525	1-249-437-11	CARBON	47K	5%	1/4W
R526	1-249-437-11	CARBON	47K	5%	1/4W
R527	1-249-437-11	CARBON	47K	5%	1/4W
R528	1-249-437-11	CARBON	47K	5%	1/4W
R529	1-249-437-11	CARBON	47K	5%	1/4W
R530	1-249-437-11	CARBON	47K	5%	1/4W
R531	1-249-437-11	CARBON	47K	5%	1/4W
R532	1-249-437-11	CARBON	47K	5%	1/4W
R533	1-249-437-11	CARBON	47K	5%	1/4W
R534	1-249-437-11	CARBON	47K	5%	1/4W
R535	1-249-437-11	CARBON	47K	5%	1/4W
R536	1-249-421-11	CARBON	2.2K	5%	1/4W
R537	1-249-437-11	CARBON	47K	5%	1/4W
R538	1-249-437-11	CARBON	47K	5%	1/4W
R539	1-249-437-11	CARBON	47K	5%	1/4W
R540	1-249-437-11	CARBON	47K	5%	1/4W
R541	1-249-437-11	CARBON	47K	5%	1/4W
R542	1-249-437-11	CARBON	47K	5%	1/4W
R543	1-249-437-11	CARBON	47K	5%	1/4W
R544	1-249-437-11	CARBON	47K	5%	1/4W
R545	1-249-431-11	CARBON	15K	5%	1/4W
R546	1-249-431-11	CARBON	15K	5%	1/4W
R547	1-249-423-11	CARBON	3.3K	5%	1/4W
R548	1-249-423-11	CARBON	3.3K	5%	1/4W
R549	1-249-437-11	CARBON	47K	5%	1/4W
R601	1-249-431-11	CARBON	15K	5%	1/4W
R602	1-249-431-11	CARBON	15K	5%	1/4W

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

Ref.No	Part No.	Description			
R603	1-249-407-11	CARBON	150	5%	1/4W
R604	1-249-429-11	CARBON	10K	5%	1/4W
R605	1-249-429-11	CARBON	10K	5%	1/4W
R606	1-249-429-11	CARBON	10K	5%	1/4W
R607	1-249-429-11	CARBON	10K	5%	1/4W
R608	1-249-430-11	CARBON	12K	5%	1/4W
R609	1-249-429-11	CARBON	10K	5%	1/4W
R610	1-249-426-11	CARBON	5.6K	5%	1/4W
R611	1-249-429-11	CARBON	10K	5%	1/4W
R612	1-247-883-00	CARBON	150K	5%	1/4W
R613	1-247-891-00	CARBON	330K	5%	1/4W
R614	1-249-429-11	CARBON	10K	5%	1/4W
R615	1-249-419-11	CARBON	1.5K	5%	1/4W
R616	1-249-441-11	CARBON	100K	5%	1/4W
R617	1-249-441-11	CARBON	100K	5%	1/4W
R618	1-249-441-11	CARBON	100K	5%	1/4W
R619	1-249-441-11	CARBON	100K	5%	1/4W
R620	1-249-441-11	CARBON	100K	5%	1/4W
R621	1-249-424-11	CARBON	3.9K	5%	1/4W
R622	1-247-899-11	CARBON	680K	5%	1/4W
R623	1-249-405-11	CARBON	100	5%	1/4W
R624	1-249-424-11	CARBON	3.9K	5%	1/4W
R625	1-247-899-11	CARBON	680K	5%	1/4W
R626	1-247-899-11	CARBON	680K	5%	1/4W
R627	1-249-424-11	CARBON	3.9K	5%	1/4W
R628	1-249-405-11	CARBON	100	5%	1/4W
R629	1-249-424-11	CARBON	3.9K	5%	1/4W
R630	1-247-899-11	CARBON	680K	5%	1/4W
R631	1-249-411-11	CARBON	330	5%	1/4W
R632	1-249-411-11	CARBON	330	5%	1/4W
R633	1-249-411-11	CARBON	330	5%	1/4W
R634	1-249-411-11	CARBON	330	5%	1/4W
R635	1-249-411-11	CARBON	330	5%	1/4W
R636	1-249-411-11	CARBON	330	5%	1/4W
R637	1-249-436-11	CARBON	39K	5%	1/4W

RV501	1-237-901-11	RES, VAR, SLIDE 10K/10K (VOLUME)
RV502	1-237-901-11	RES, VAR, SLIDE 10K/10K (TONE)
RV503	1-237-900-11	RES, VAR, SLIDE 20K (BALANCE)
RV504	1-230-566-11	RES, VAR, SLIDE 20K (SPEED CONTROL)
RV601	1-226-703-11	RES, ADJ, METAL GLAZE 10K
RV602	1-224-644-99	RES, ADJ, CARBON 4.7K
RV603	1-224-649-99	RES, ADJ, CARBON 220K
S401	1-552-334-00	SWITCH, BAND CHANGER (SPEED CONTROL)
S402	1-571-083-11	SWITCH, SLIDE (POWER)
S501	1-554-303-21	SWITCH, KEY BOARD (REW)
S502	1-554-303-21	SWITCH, KEY BOARD (STOP)
S503	1-554-303-21	SWITCH, KEY BOARD (LISTEN)
S504	1-554-303-21	SWITCH, KEY BOARD (FF)
S505	1-554-303-21	SWITCH, KEY BOARD (RESET)
S506	1-554-998-11	SWITCH, DIGITAL (REVERSE TIME)
SP901	1-503-393-11	SPEAKER
T901	⚠ 1-448-116-11	TRANSFORMER, POWER
X501	1-567-094-00	VIBRATOR, CERAMIC (3.58MHz)

ACCESSORY & PACKING MATERIAL
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3-323-592-01	CUSHION (LEFT)
3-323-593-01	CUSHION (RIGHT)
3-323-626-21	INDIVIDUAL CARTON
3-769-580-11	MANUAL, INSTRUCTION

MEMO

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.1	2001. 07	Change of Part No. for MAIN and SYSTEM CONTROL board.
1.0	1989. 02	New