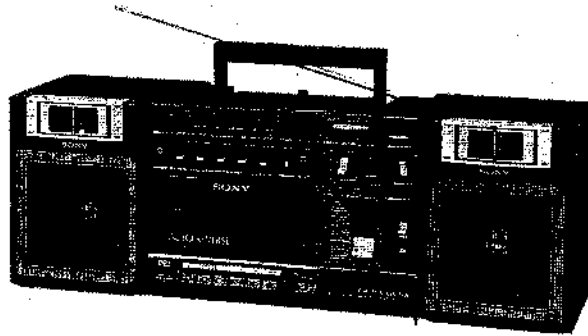


CFS-4000L

SERVICE MANUAL

AEP Model
UK Model



SPECIFICATIONS

Tape Transport Mechanism Type	MF-5000-78
-------------------------------	------------

Radio section

Frequency range

FM 87.6–107 MHz
MW 530–1,605 kHz (566-187 m)
LW 150-255 kHz (2,000–1,176 m)
SW 5.95–18 MHz (50–16.7 m)

Antennas

FM/SW: Telescopic antenna
MW/LW: Built-in ferrite bar antenna

Tape recorder section and general

Recording system

4-track 2-channel stereo

Fast winding time

Approx. 2 min. 5 sec. with Sony cassette
HF-60

Frequency response

80–8,000 Hz

Graphic equalizer

Boost/cut range: ± 10 dB
Center frequencies: 100 Hz, 400 Hz, 1 kHz,
4 kHz, 10 kHz

Speakers

Two-way: Woofer 12 cm (4 $\frac{1}{8}$ inches) dia. x2
Tweeter 2 cm ($\frac{13}{16}$ inches) dia. x2

Impedance 6 ohms

Nominal power handling capacity 5 W
Maximum power handling capacity 7 W

Power output

5 W + 5 W (at 10% harmonic distortion) in
DC operation

Inputs

Two external microphone input jacks
(minijack)
sensitivity 0.775 mV for low impedance
microphone

Outputs

Headphones jack (stereo minijack)
for 8–300-ohm impedance headphones
Speaker terminals
for 6-ohm impedance speaker

Power requirements

The model for the United Kingdom:

240 V AC, 50 Hz

The model for European countries:

220 V AC, 50 Hz

9 V DC, six IEC designation R20 (size D)
batteries

Power consumption

25 W in AC operation

Battery life

Approx. 10 hours of continuous recording
from the built-in radio using

Sony SUM-1 (NS) New Super batteries

Dimensions


Approx. 582 x 201 x 181.5 mm (w/h/d)
(22 $\frac{7}{8}$ x 7 $\frac{7}{8}$ x 7 $\frac{1}{8}$ inches)

incl. projecting parts and controls, not incl.
handle

Weight

Approx. 5 kg (11 lb) incl. batteries

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.

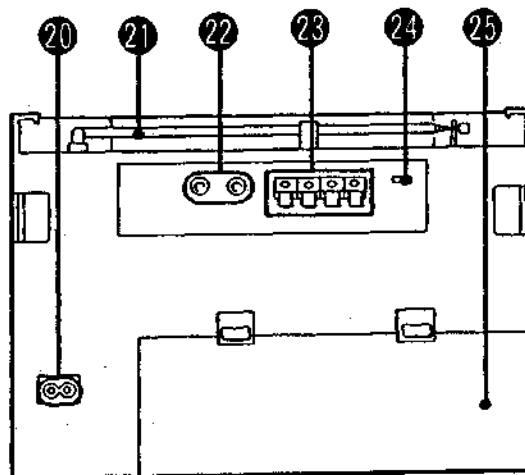
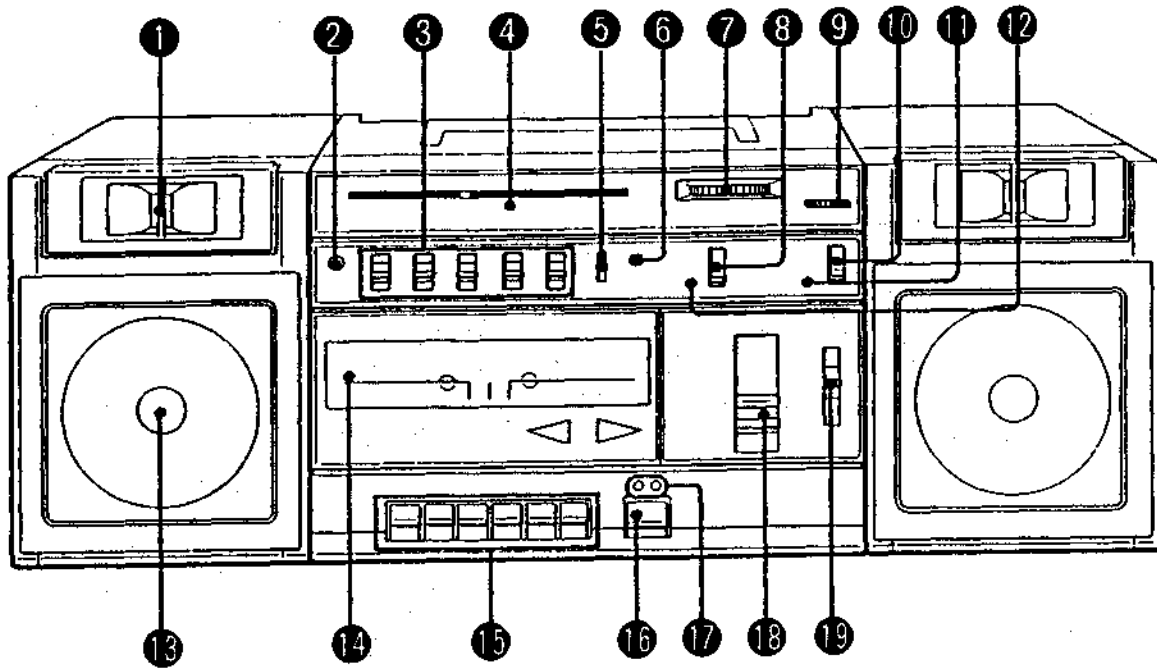
FM/MW/LW/SW
STEREO CASSETTE-CORDER
SONY[®]



TC

**SECTION 1
OUTLINE**

LOCATION AND FUNCTION OF CONTROLS



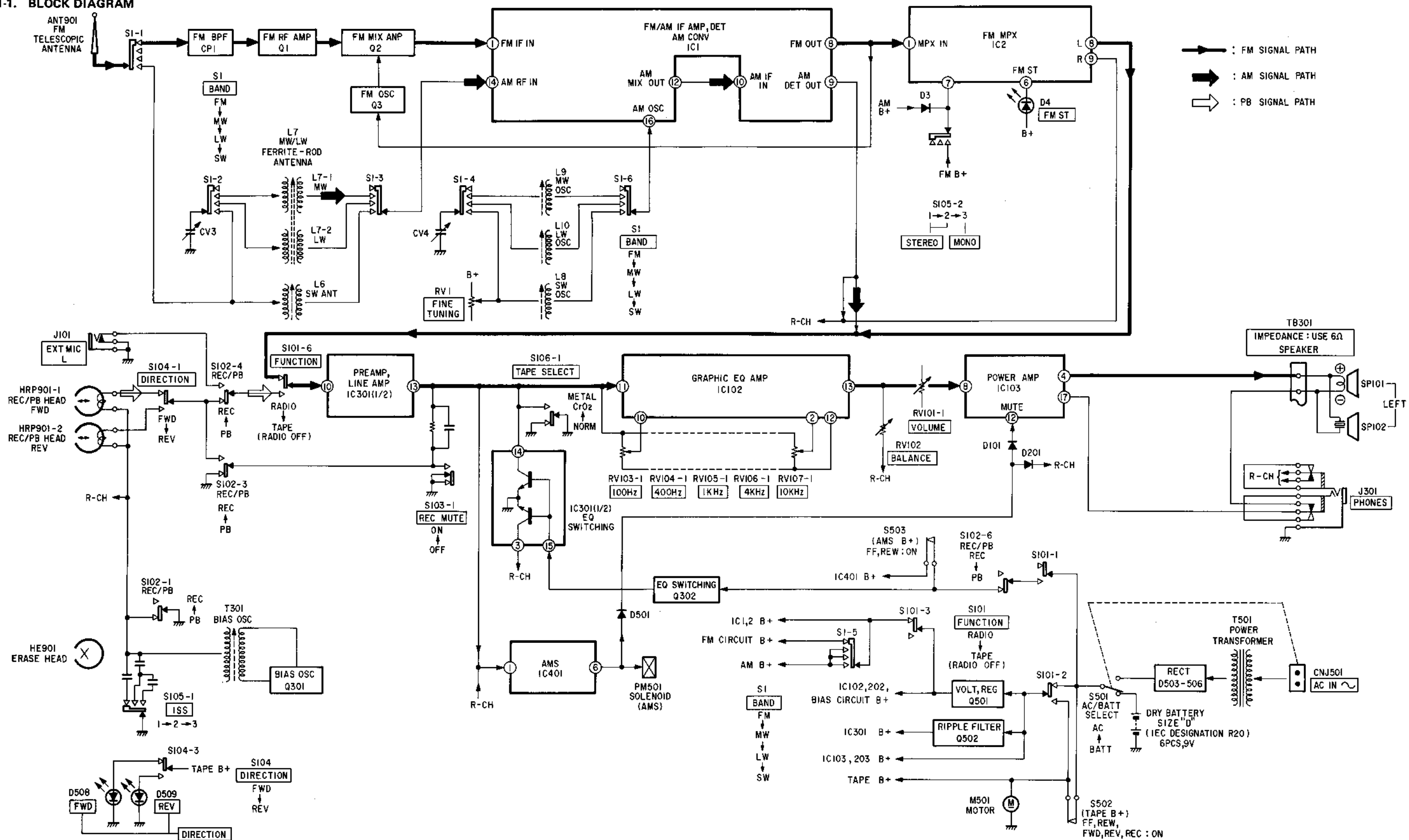


FUNCTION OF CONTROLS

- 1 **Tweeter**
- 2 **PHONES jack** (stereo minijack)
- 3 **GRAPHIC EQUALIZER controls**
Slide downwards or upwards to equalize the reproduced sound. When the equalizer is not used, set the controls to 0 (center position).
- 4 **Dial scale**
- 5 **TAPE SELECT switch**
Select the type of the tape to be played back.
NORM: To play back TYPE I (normal) tape
CrO₂/METAL: To play back TYPE II (CrO₂) or TYPE IV (metal) tape
- 6 **REC MUTE (record muting) button**
Press this button to eliminate unwanted programs and provide a blank space during recording.
- 7 **TUNING knob**
Turn the knob to select the frequency of the desired station.
- 8 **FUNCTION selector**
RADIO: For listening to or recording radio program.
TAPE/RADIO OFF: For playing back the tape, or for recording from the external microphones.
Be sure to set the FUNCTION selector to TAPE/RADIO OFF when the unit is not in use. (This position is power off for the radio when the tape operation buttons are released.)
- 9 **FINE TUNING knob**
Turn to precisely tune in the SW frequency.
- 10 **BAND select switch**
Select the desired band, FM, MW, LW or SW.
- 11 **FM ST (stereo) indicator**
Lights when an FM stereo program of sufficient signal strength is tuned in.
- 12 **OPR/BATT (operation/battery) indicator**
Lights up to show operation.
The indicator also shows the battery condition.
- 13 **Woofer**
- 14 **Cassette holder**
- 15 **Tape operation mode buttons**
 - STOP/EJECT
 - RECORD
 - ▶ PLAY
 - ◀◀
 - ▶▶
- 16 **PAUSE:** Depress to stop the tape for a moment during playback. To restart, press it again.
- 16 **◀▶ DIRECTION (tape transport direction) button**
Press to listen to the other side of the cassette during playback.
- 17 **DIRECTION indicators (REV and FWD)**
Show the direction of the tape transport.
- 18 **VOLUME control**
Slide up for more volume.
- 19 **BALANCE control**
Slide to adjust right and left speaker volume for optimum stereo effect.
- 20 **AC IN socket**
- 21 **Telescopic antenna**
Used for FM and SW reception.
- 22 **EXT MIC (external microphone input) jacks**
Minijacks for recording with external microphones. Set the FUNCTION selector to TAPE/RADIO OFF.
- 23 **SPEAKER terminals**
Connect the speaker system using the speaker cords.
- 24 **ISS (Interference Suppress Switch)/FM MODE selector**
ISS: While recording MW/LW program, if beat (whistling noise) is heard, set the ISS selector to 1, 2 or 3, depending on which best reduces the noise.
FM MODE: Used for FM reception. Normally set the selector to STEREO. Set to MONO when it is hard to hear the broadcast due to noise.
- 25 **Battery compartment**

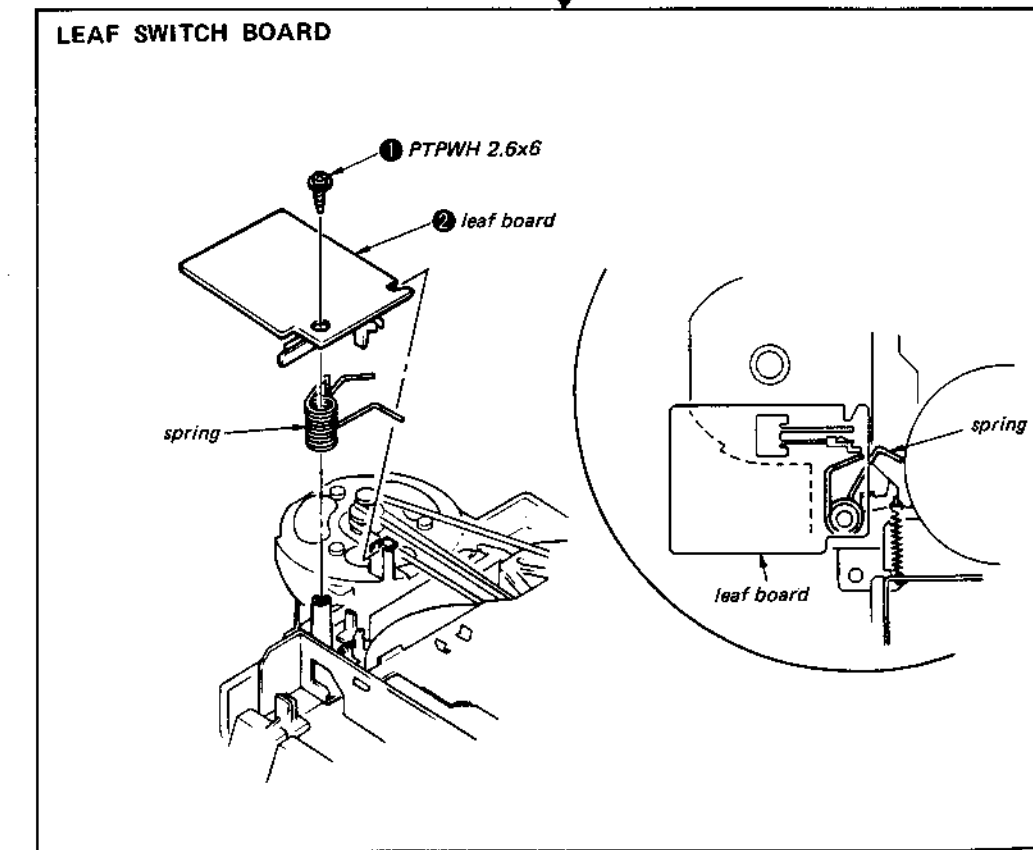
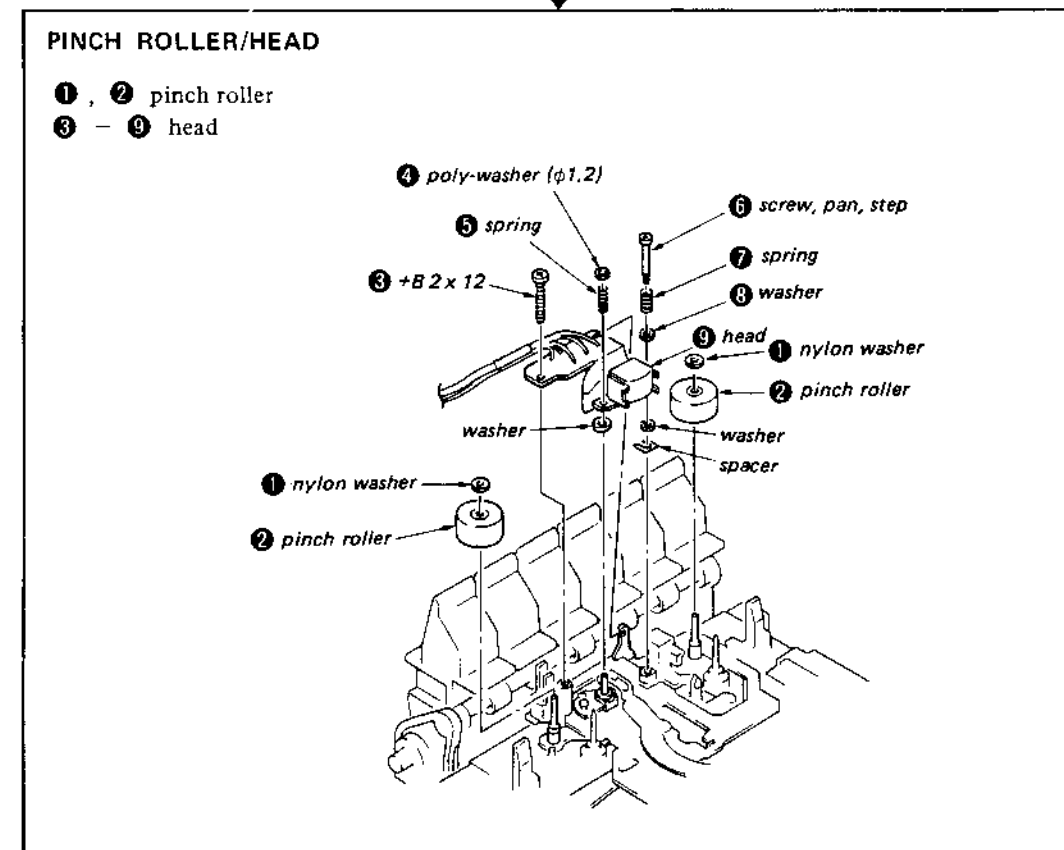
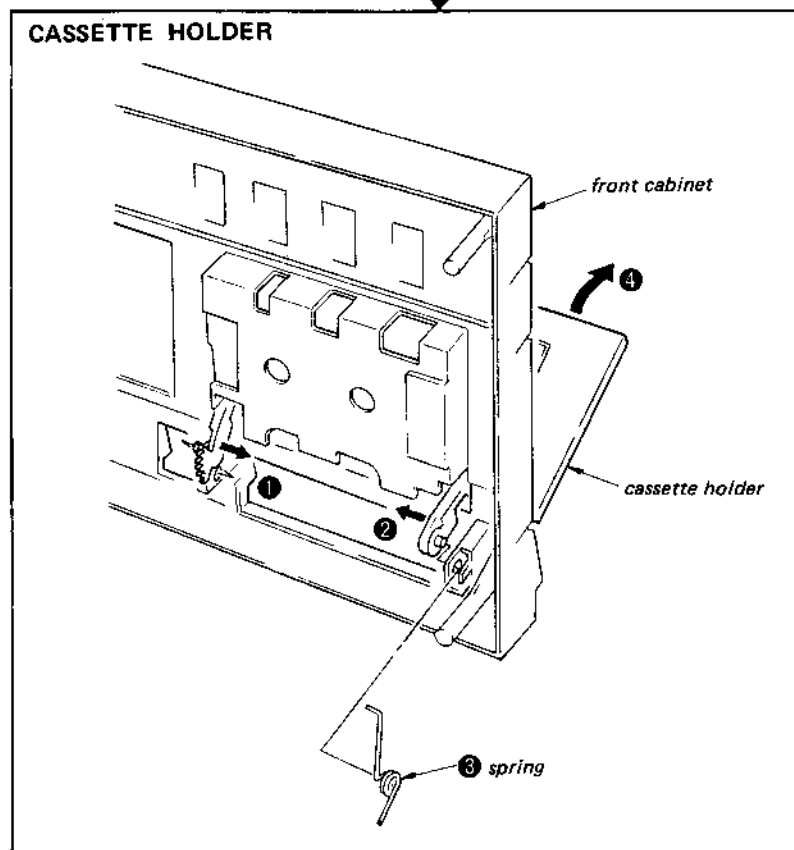
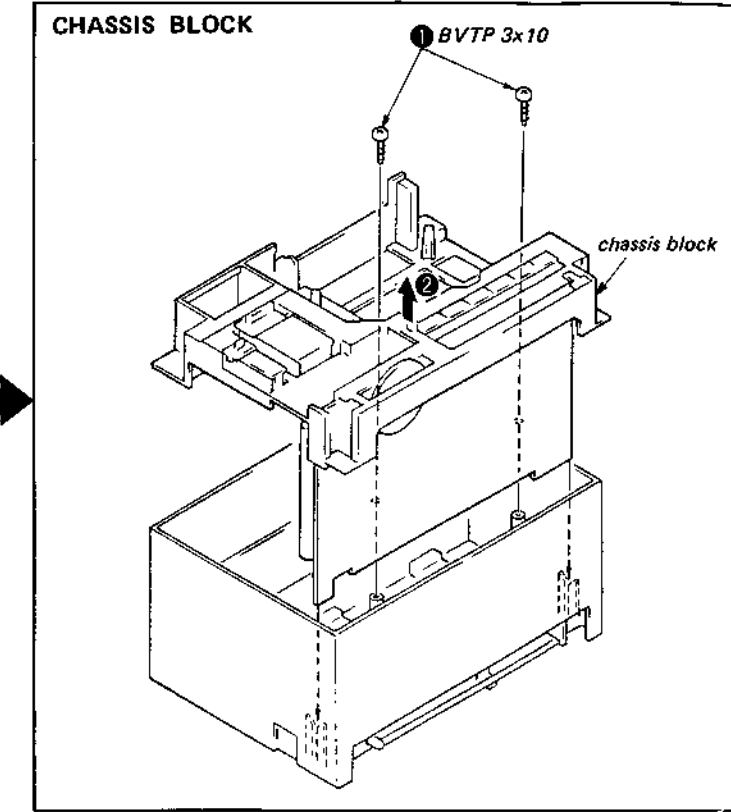
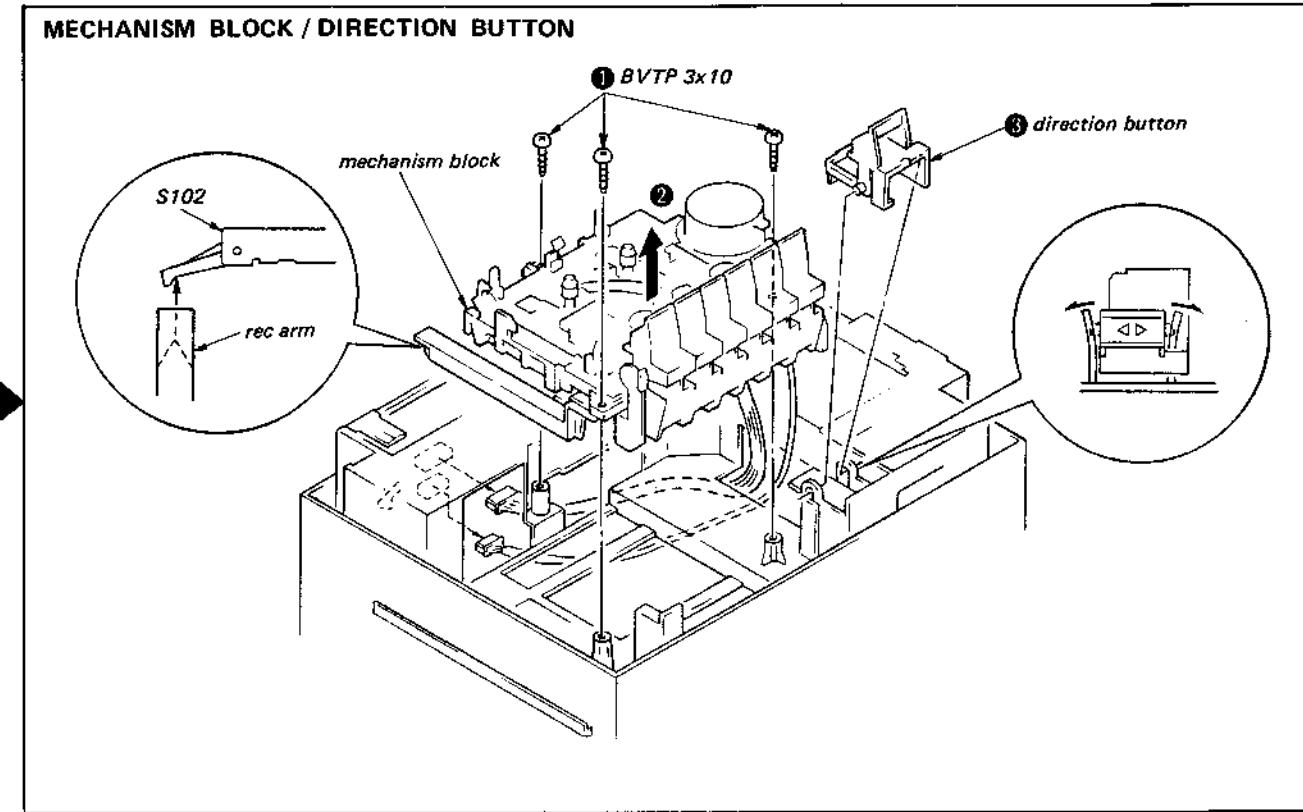
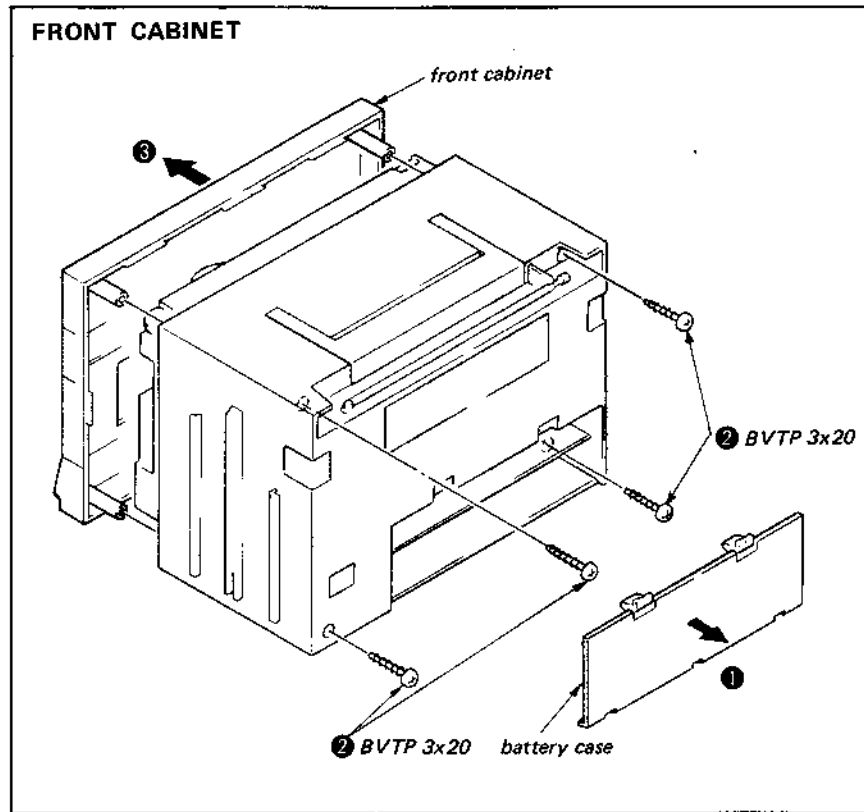
SECTION 2
BLOCK DIAGRAM

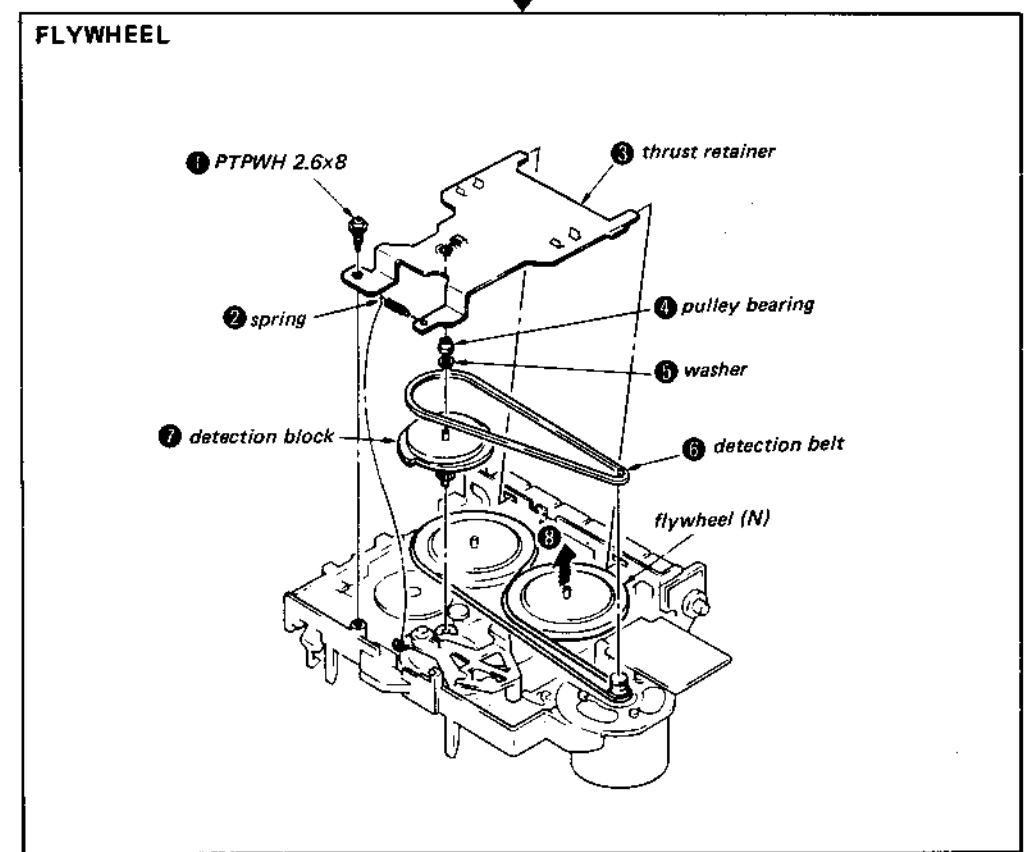
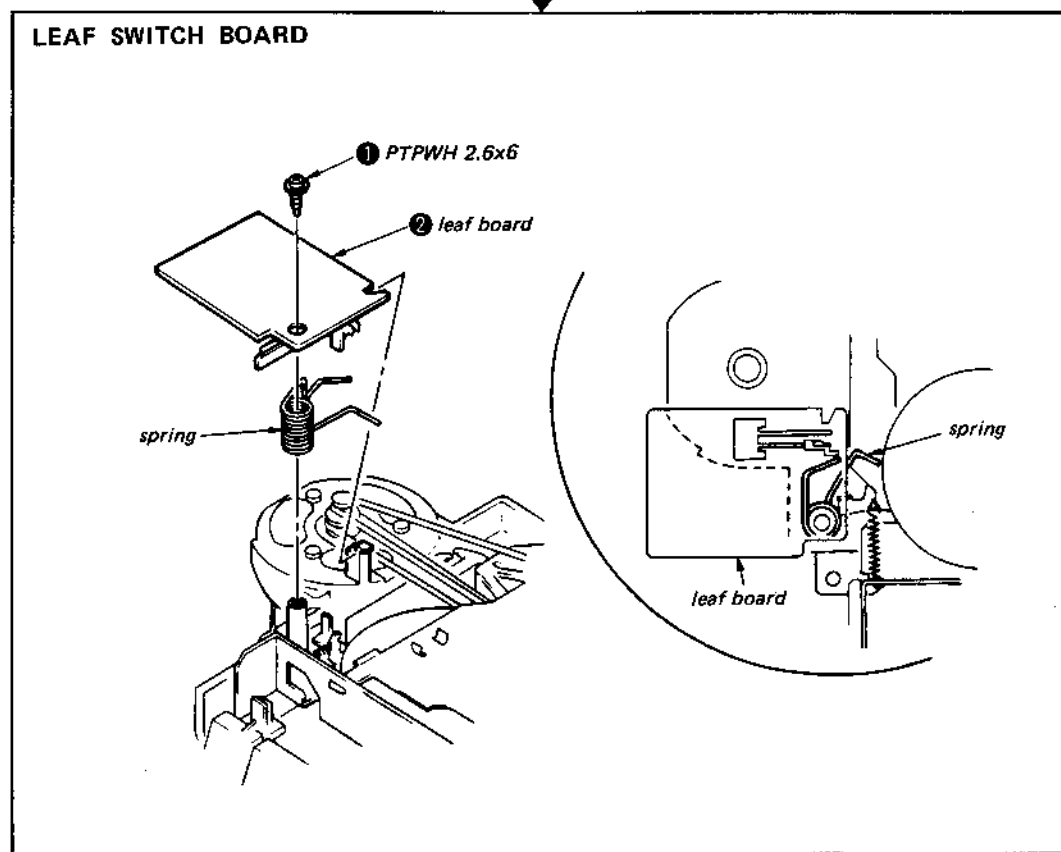
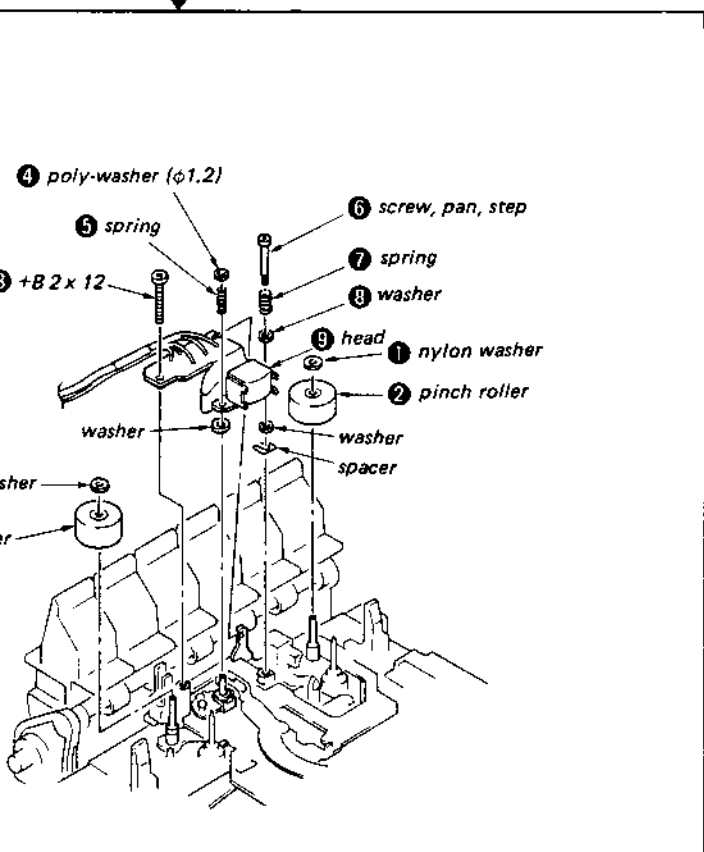
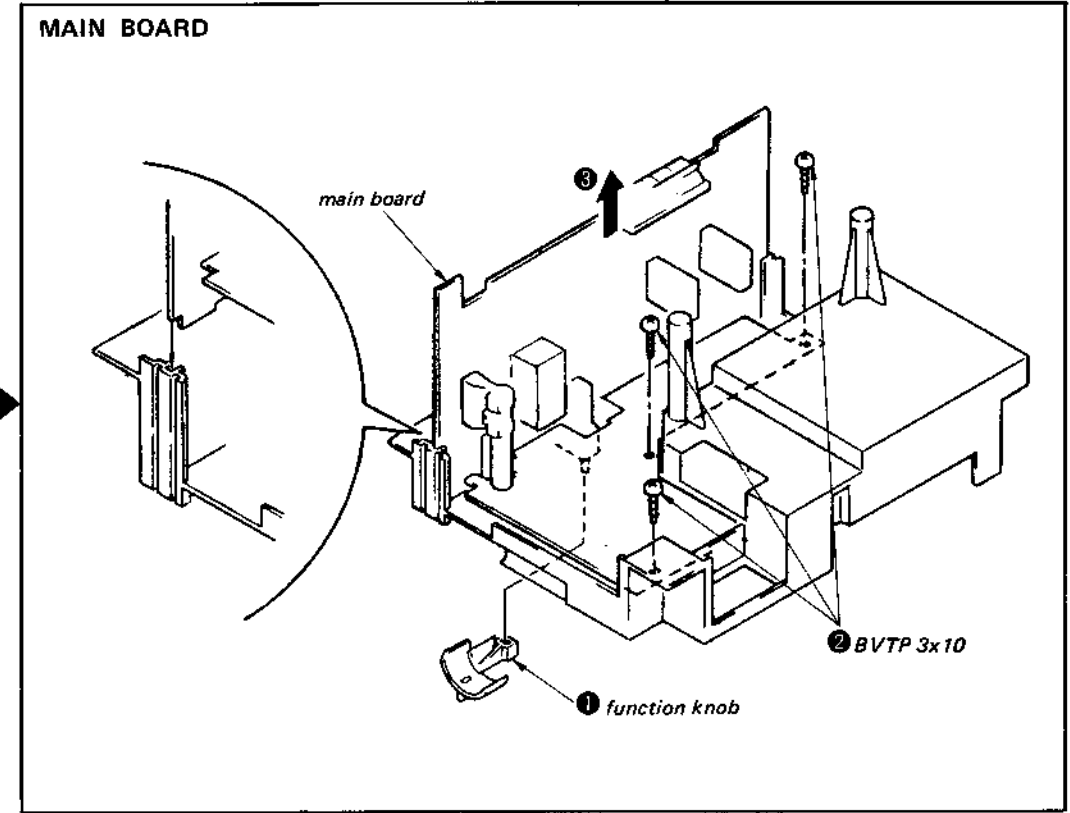
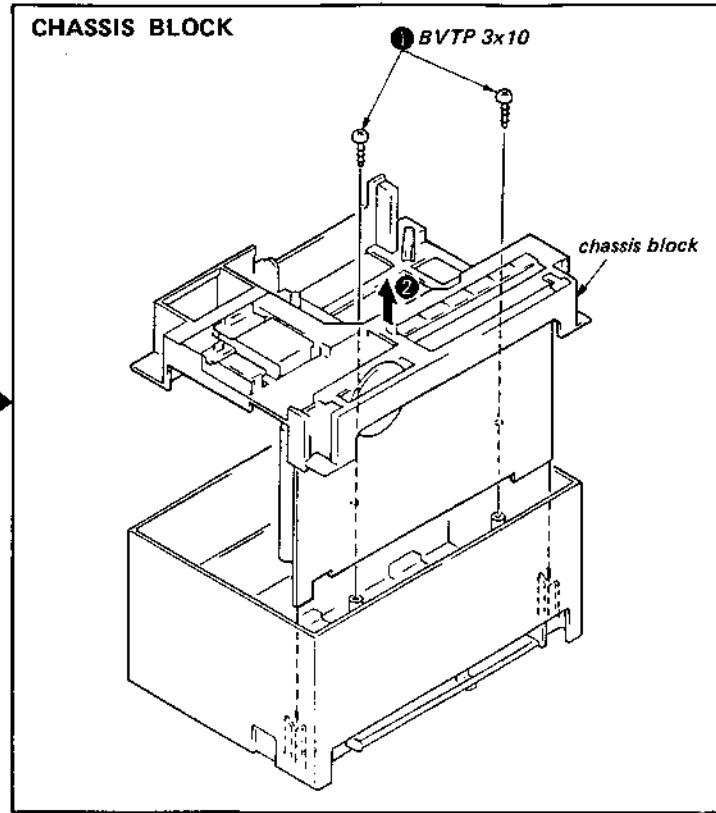
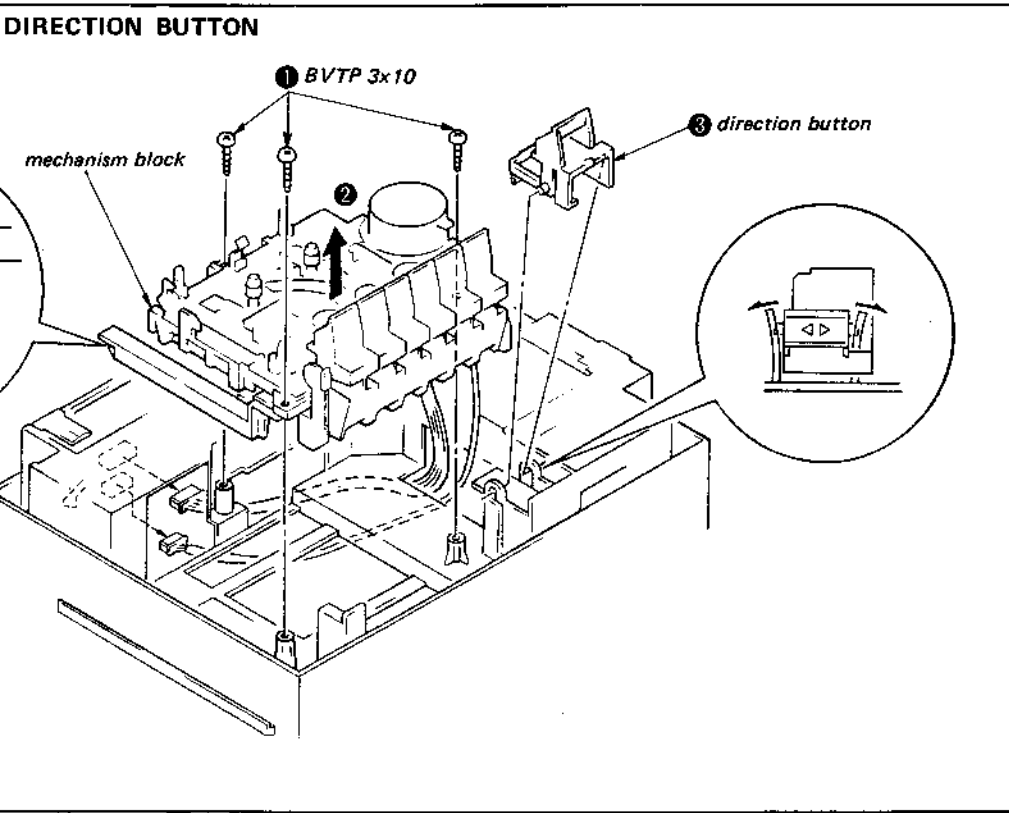
1-1. BLOCK DIAGRAM



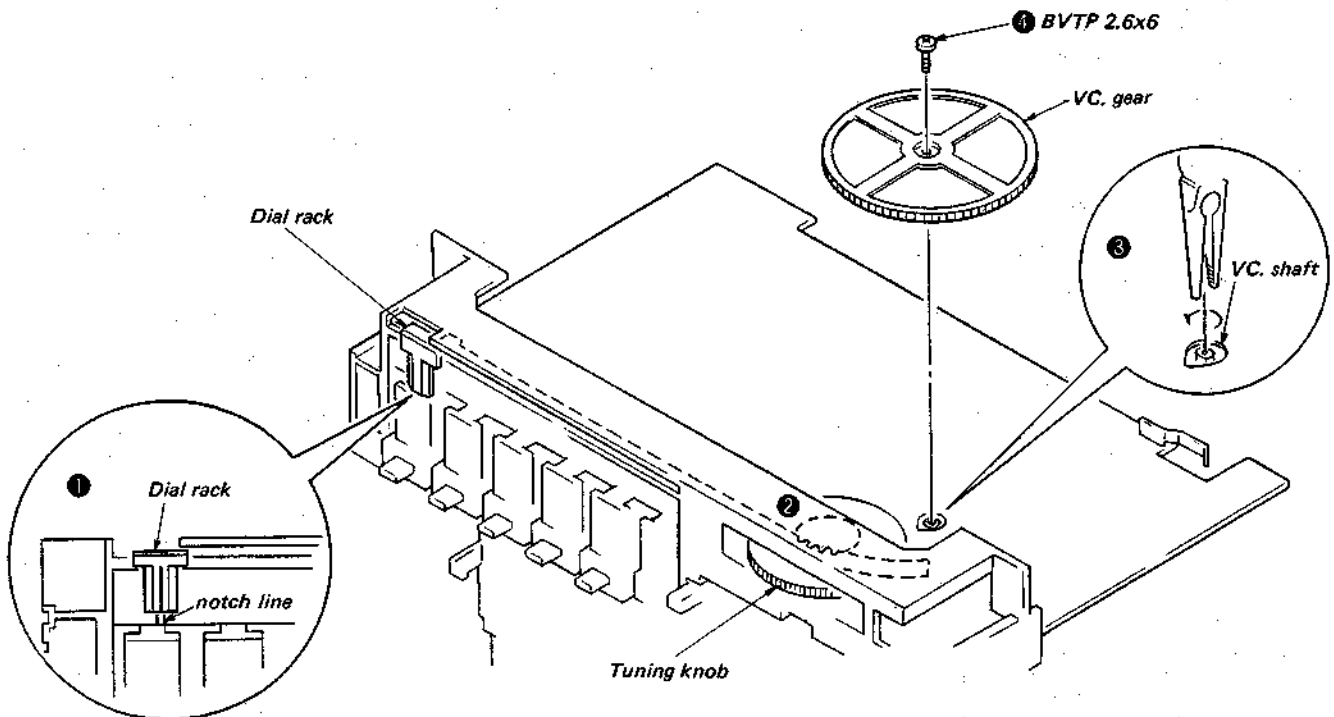
SECTION 3
DISASSEMBLY

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





- ❶ Set the center of dial rack to the notch line.
- ❷ Mesh the teeth of tuning knob with the teeth of dial rack.
- ❸ Turn VC. shaft fully counterclockwise with a pair of pliers.
- ❹ Secure VC. gear with a screw (BVTP 2.6x6), and apply a suitable locking compound.



**SECTION 4
ADJUSTMENTS**

MECHANICAL ADJUSTMENTS

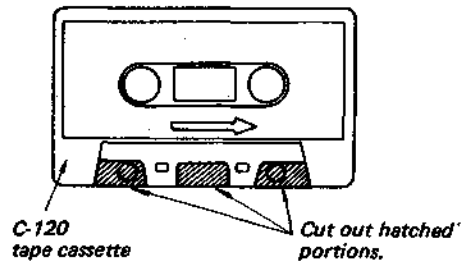
PRECAUTION

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

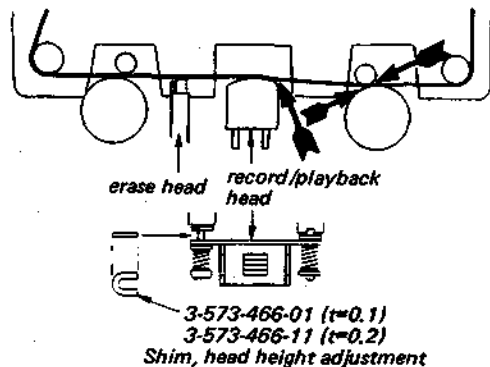
record/playback head	pinch roller
erase head	rubber belts
capstan	idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
6. The adjustments should be performed in the order given in this service manual.
The adjustments should be performed for both L-CH and R-CH.

Head Height Adjustment

1. Prepare an adjustment cassette as shown below.



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

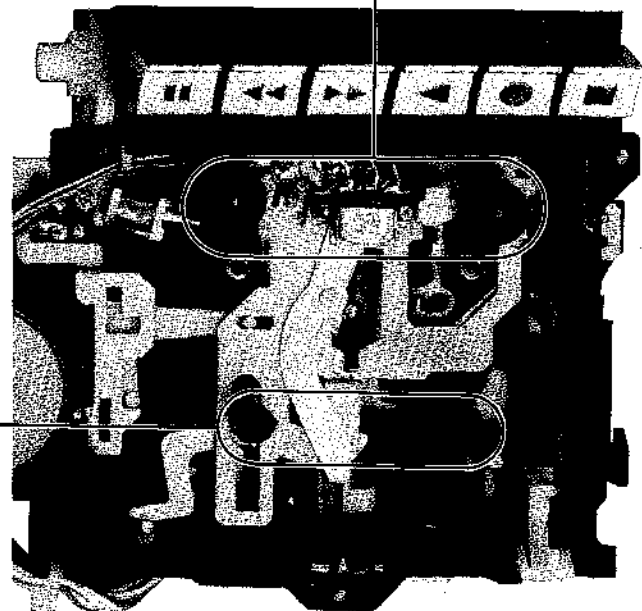


Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	28 – 55 g·cm (0.39 – 0.76 oz·inch)
FWD Back Tension		2.5 – 5.5 g·cm (0.04 – 0.07 oz·inch)
REV	CQ-102RC	28 – 55 g·cm (0.39 – 0.76 oz·inch)
REV Back Tension		2.5 – 5.5 g·cm (0.04 – 0.07 oz·inch)
FF	CQ-201B	100 – 180 g·cm (1.38 – 2.48 oz·inch)
REW		95 – 145 g·cm (1.33 – 2.01 oz·inch)

Tape Tension Measurement

Mode	Tension meter	Meter reading
FWD	CQ-403A	more than 120 g
REV	CQ-403R	(more than 1.67 oz·inch)



ELECTRICAL ADJUSTMENTS

CASSETTE SECTION

Tape Speed Adjustment

Setting:

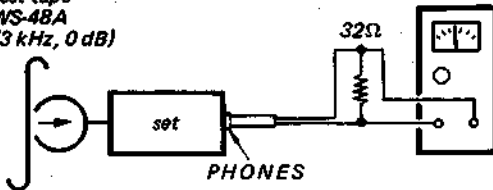
VOLUME control: mechanical mid

Procedure:

Mode: FWD playback

speed checker
LFM-30
or
digital frequency
counter

test tape
WS-48A
(3 kHz, 0 dB)



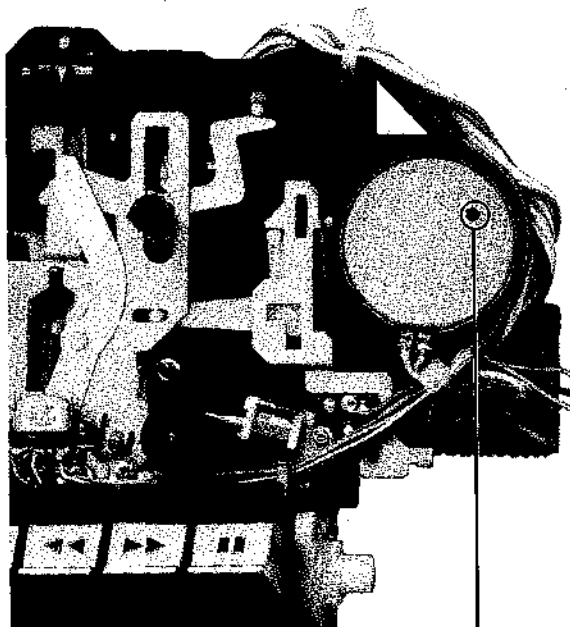
Specification:

Speed checker	Digital frequency counter
-1.3 to +1.2%	2,960 to 3,035 Hz

Frequency difference between the beginning and the end of the tape should be within 1% (30 Hz).

Also in REV playback mode, confirm to obtain the above specification.

Adjustment Location:



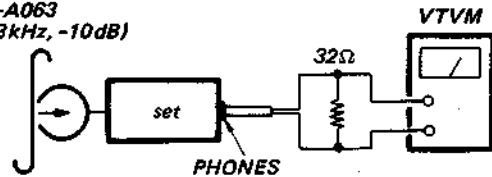
tape speed adjustment control inside motor

Record/playback Head Azimuth Adjustment

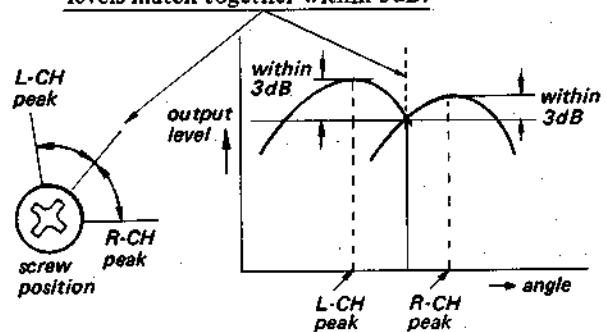
Procedure:

1. Mode: FWD playback

test tape
P-4-A063
(6.3 kHz, -10 dB)



2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 3dB.

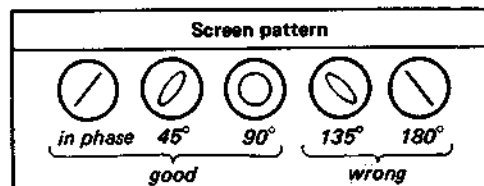
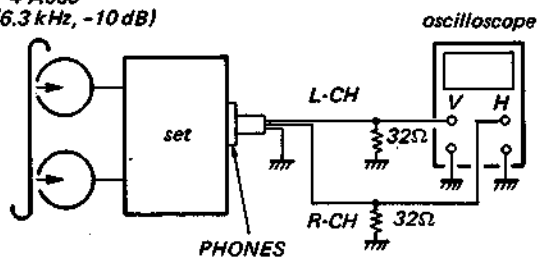


Also in REV playback mode, perform the above adjustment. After the adjustment, confirm to obtain the specification in FWD playback mode again.

3. Phase Check

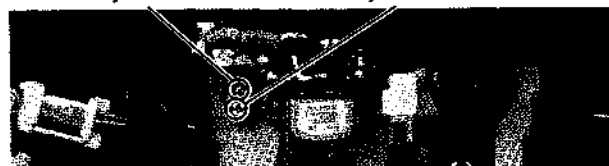
Mode: FWD playback and REV playback

test tape
P-4-A063
(6.3 kHz, -10 dB)



Adjustment Location:

FWD adjustment screw REV adjustment screw



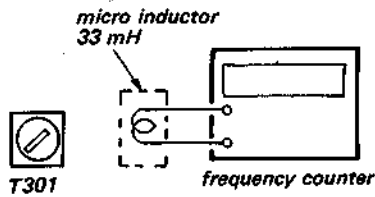
Record Bias OSC Frequency Adjustment

Setting:

GEQ control: center
FUNCTION switch: TAPE

Procedure:

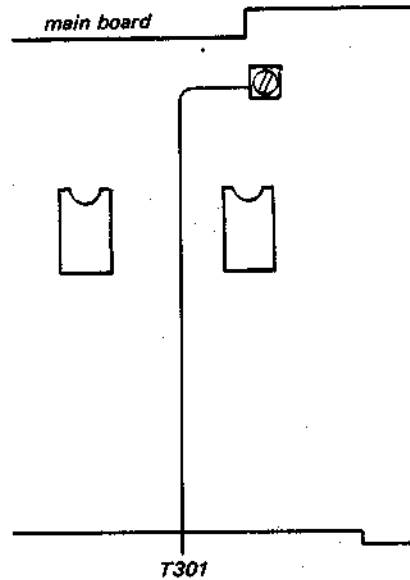
1. Mode: record (without signal)



2. Bring the micro inductor connected to a frequency counter close to T301.
3. Adjust T301 for the specified value on the frequency counter.

Specification:

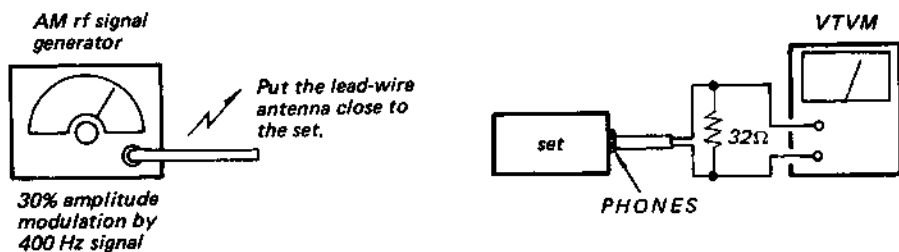
ISS 1. 47.5–49 kHz
ISS 2. 44 – 46 kHz
ISS 3. 41 – 42.5 kHz



RADIO SECTION

• **AM SECTION** LW

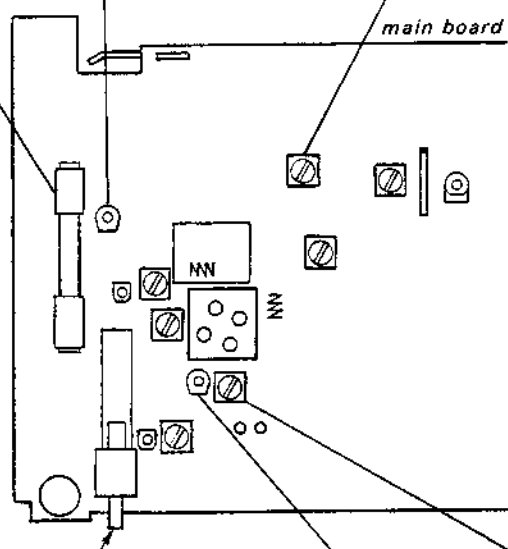
FUNCTION switch: RADIO
BAND switch: LW



• Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
160 kHz	240 kHz
L7-2	CT6

AM IF ALIGNMENT	
Adjust for a maximum reading on VTVM.	
T3	455 kHz

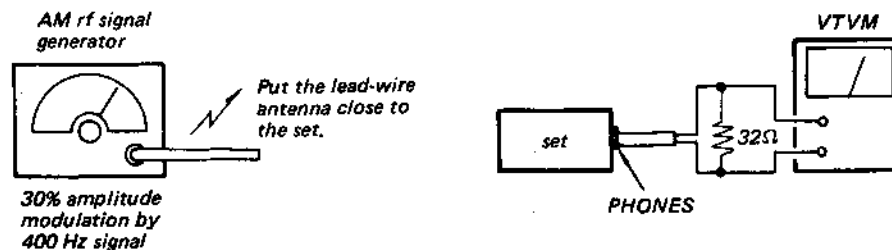


SI BAND SWITCH
SW
↑
LW
↑
MW
↑
FM

FREQUENCY COVERAGE ADJUSTMENT	
CT8	L10
265 kHz	145 kHz
Adjust for a maximum reading on VTVM.	

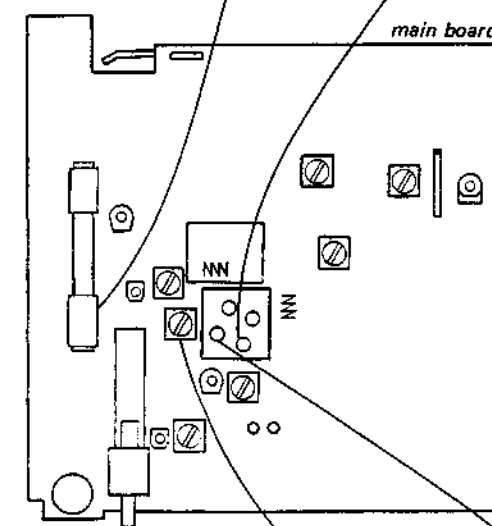
MW

FUNCTION switch: RADIO
BAND switch: MW



• Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
600 kHz	1,400 kHz
L7-1	CT3

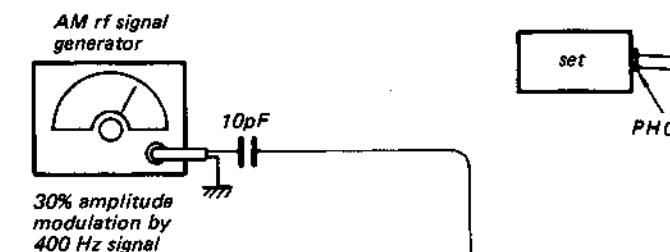


SI BAND SWITCH
SW
↑
LW
↑
MW
↑
FM

FREQUENCY COVERAGE ADJUSTMENT	
L9	CT4
520 kHz	1,660 kHz
Adjust for a maximum reading on VTVM.	

SW

FUNCTION switch: RADIO
BAND switch: SW



• Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FREQUENCY COVERAGE ADJUSTMENT	
5.8 MHz	L8
18.4 MHz	CT7
Adjust for a maximum reading on VTVM.	

RV1
SW FINE TUNING

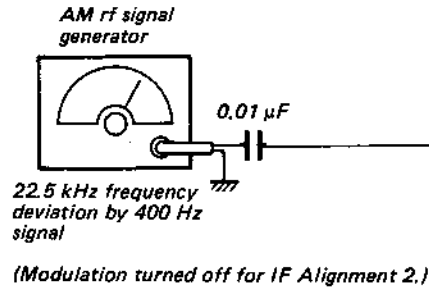
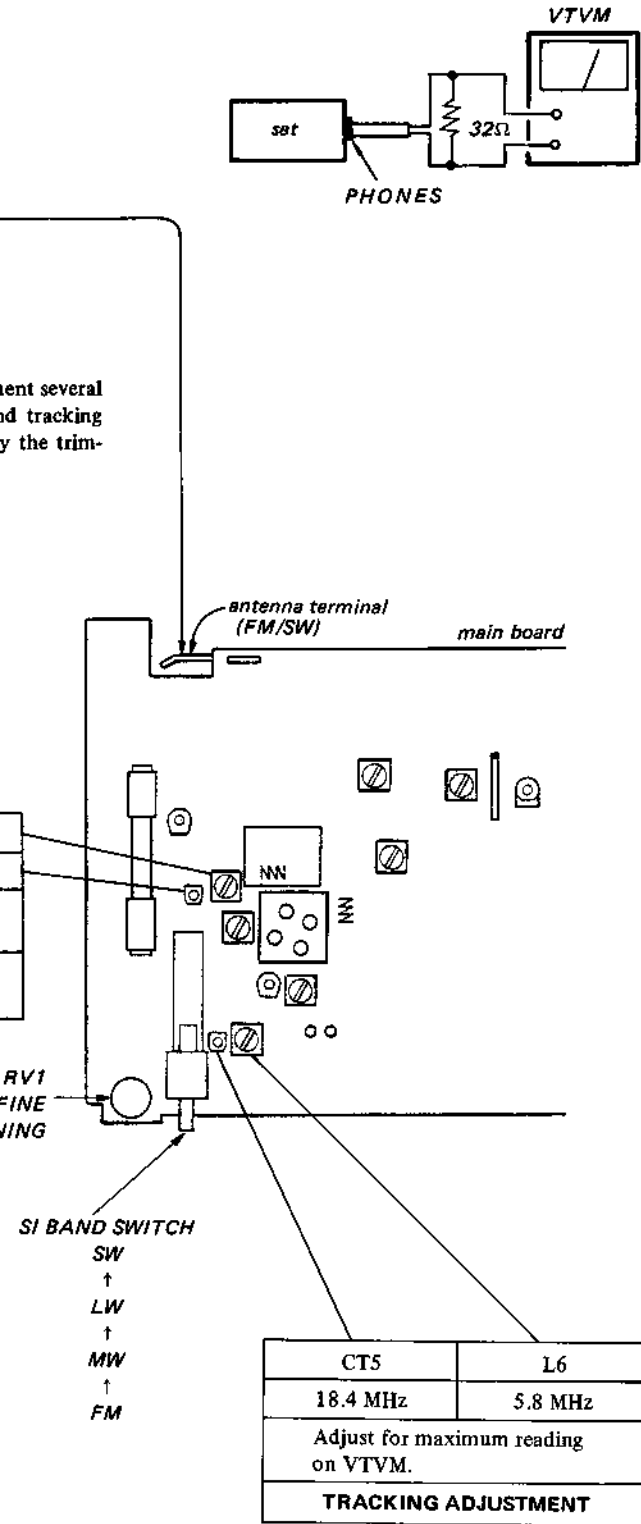
SI BAND SWITCH
SW
↑
LW
↑
MW
↑
FM

TRACKING ADJUSTMENT	
CT5	18.4 MHz
Adjust for a maximum reading on VTVM.	

TRACKING

● FM SECTION

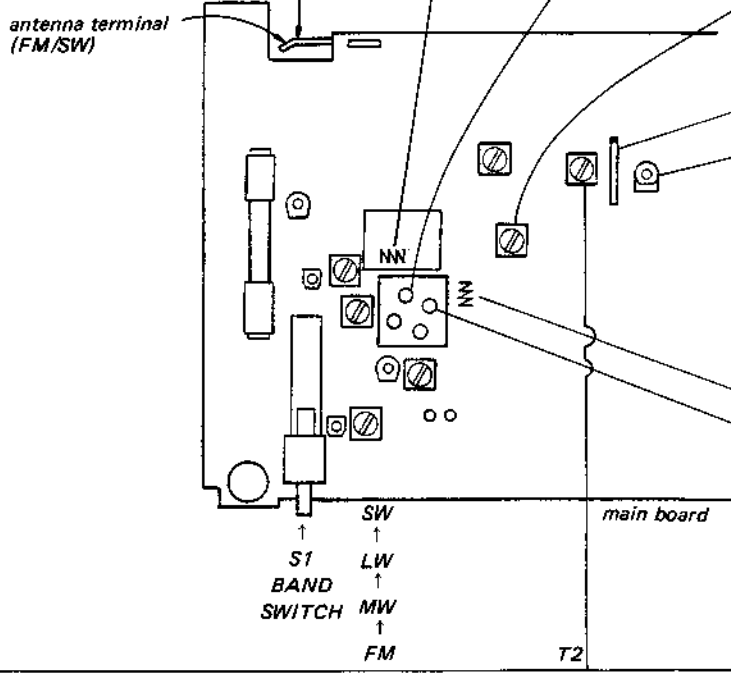
FUNCTION switch: RADIO
BAND switch: FM



● Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

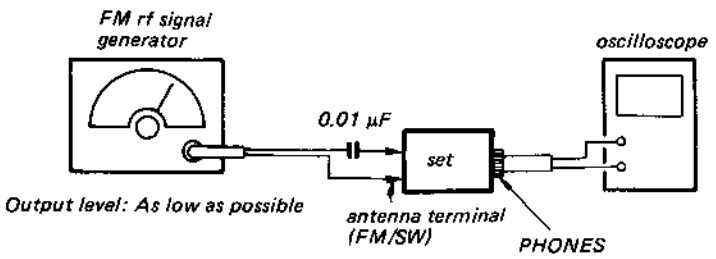
FREQUENCY COVERAGE ADJUSTMENT	
Adjusting for a maximum reading on VTVM.	
87.35 MHz	107.8 MHz
L3	CT2

FM IF ALIGNMENT 1	
Adjust for 0 V reading on VTVM.	
10.7 MHz	
T1	T2



FM IF ALIGNMENT 2

Procedure:

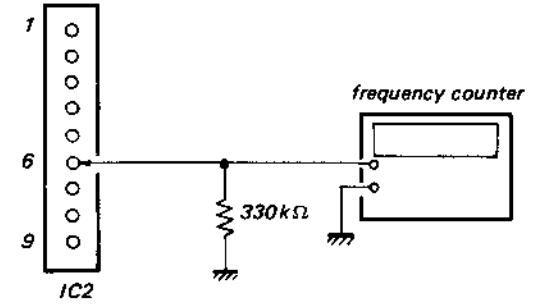
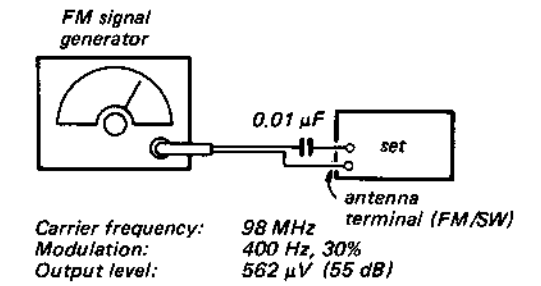


1. Turn T2 fully clock wise.
2. Make sure that sinewave appears three times when changing rf signal-generator frequency gradually.
3. Set rf signal-generator frequency for second sinewave, and precisely adjust rf signal-generator frequency for maximum reading on oscilloscope.
4. Adjust T2 for maximum reading and minimum noise on oscilloscope.

VCO Adjustment

A) Regular Method

Procedure:

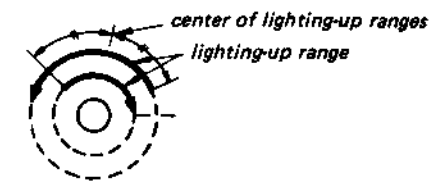


1. Tune the set to 98 MHz.
2. Adjust RV2 for 38 kHz ± 0.2 kHz on the counter.

B) Simple Method

Procedure:

1. Tune the set to the FM stereo broadcasting signal.
2. Turn RV2 clockwise or counterclockwise and memorize the lighting-up range of the stereo lamp.
3. Secure RV2 at the center of the lighting-up range of both turns as shown below.



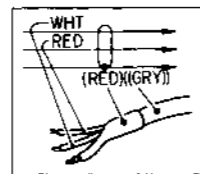
SECTION 5
DIAGRAMS

● Semiconductor Lead Layouts

<p>TA7668BP LA 1260S LA 3600</p> <p>16 15 14 13 12 11 10 9 1 2 3 4 5 6 7 8 (Top view)</p>	<p>2SC2786-K 2SD1020-F</p> <p>Micro side c b</p>
<p>LA4500</p> <p>20 11 1 10</p>	<p>IS2687S-1 IS2139C ISS133 RD6.8FB2 20E2H</p> <p>cathode anode</p>
<p>LA 2010 TA7343AP</p> <p>12 3 4 5 6 7 8 9</p>	<p>ISS133</p> <p>cathode anode</p>
<p>2SC2724-C 2SC2724-D</p> <p>a c b</p>	<p>TLR124</p> <p>long short anode cathode</p>
<p>2SC 945-P</p> <p>f c b</p>	

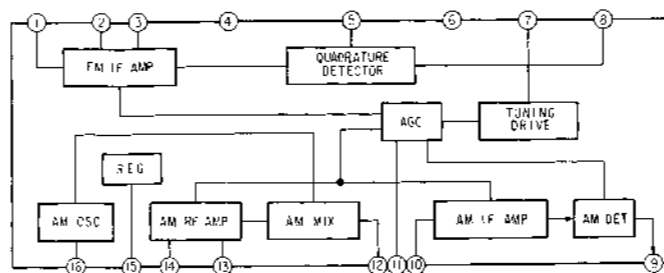
Note:

- Color code of sleeving over the end of the jacket.

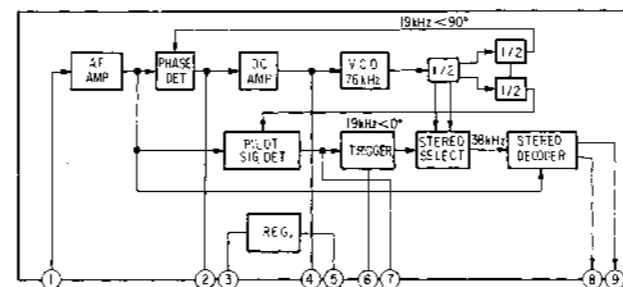


- — : parts extracted from the component side.
- — : parts extracted from the conductor side.
- : part mounted on the conductor side.
- — : indicates side identified with part number.

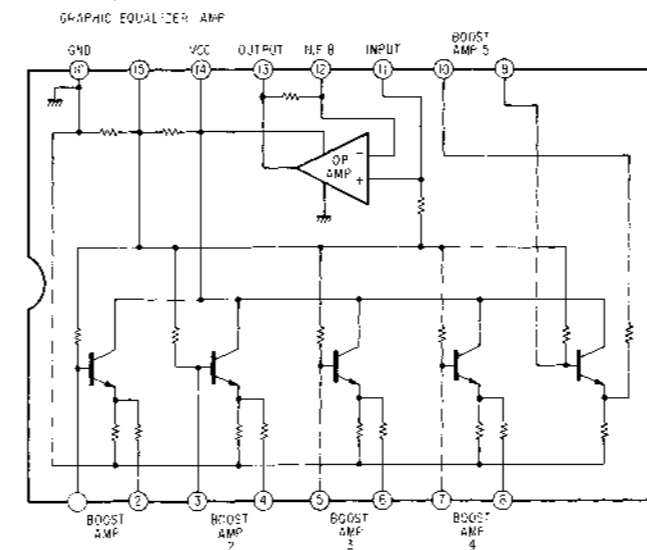
(LA1260 S)



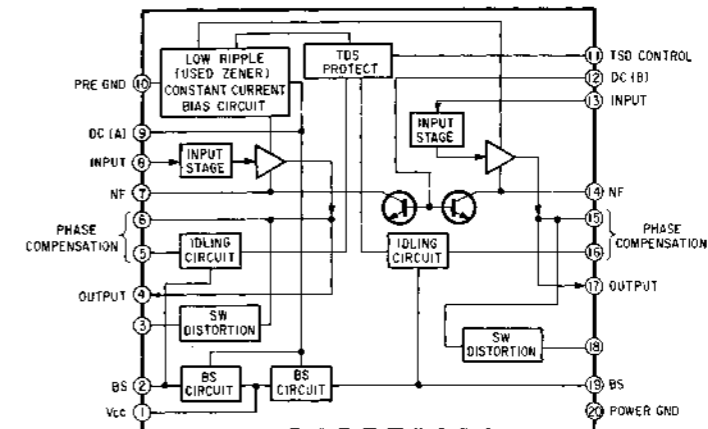
(TA7343 AP)



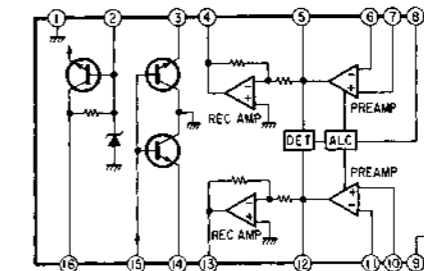
(LA3600)



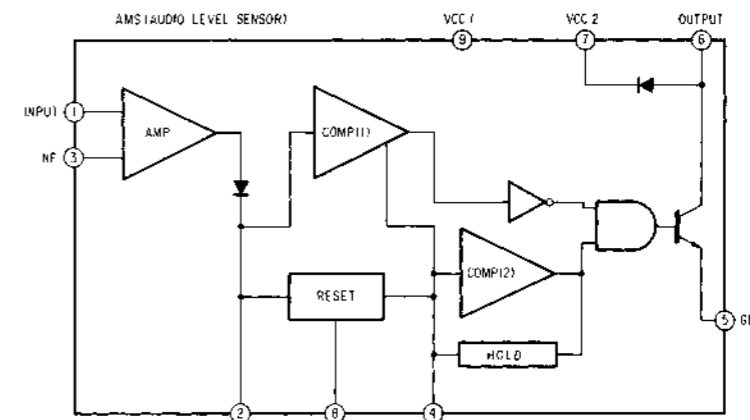
(LA4500)



(TA7668BP)

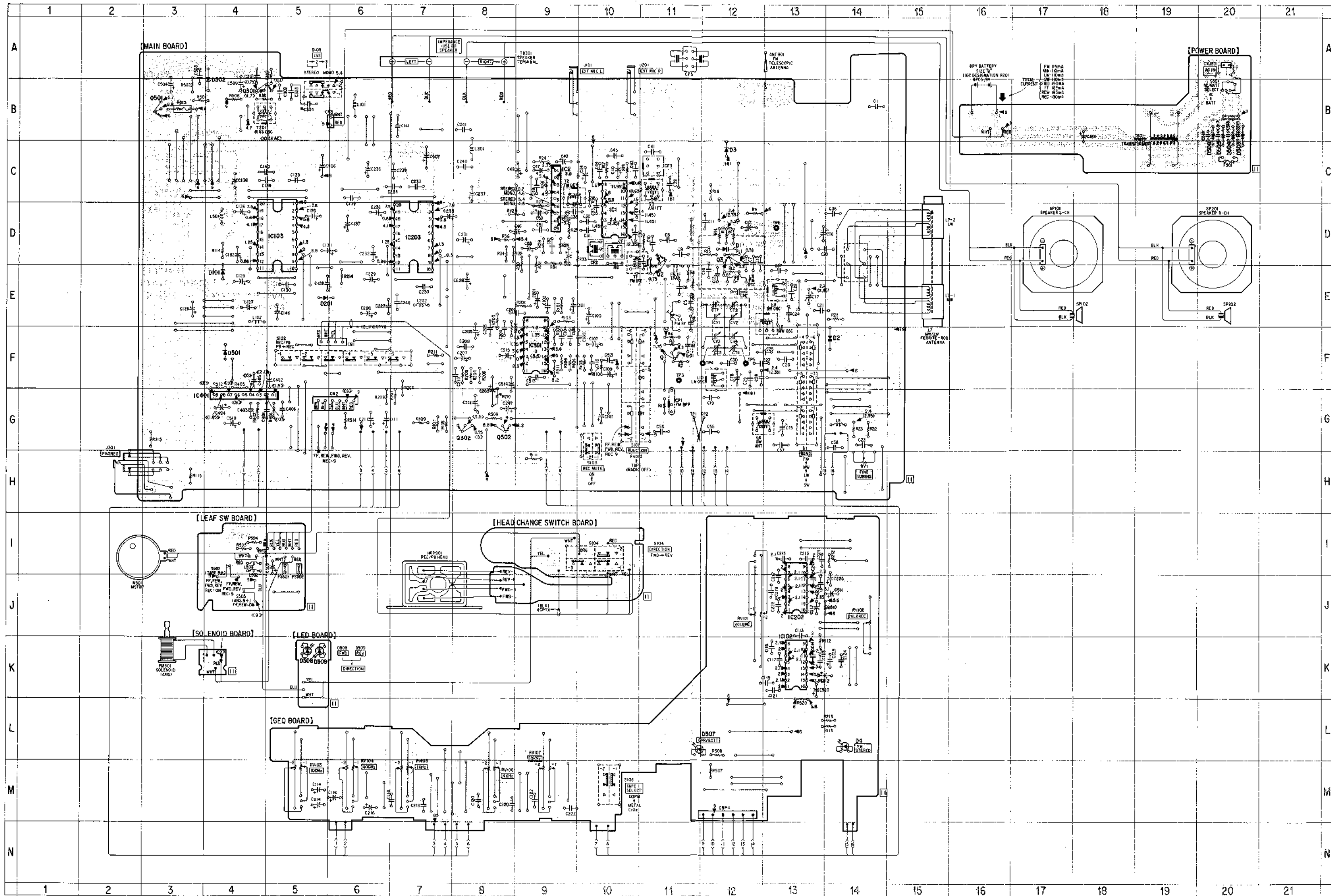


(LA2010)

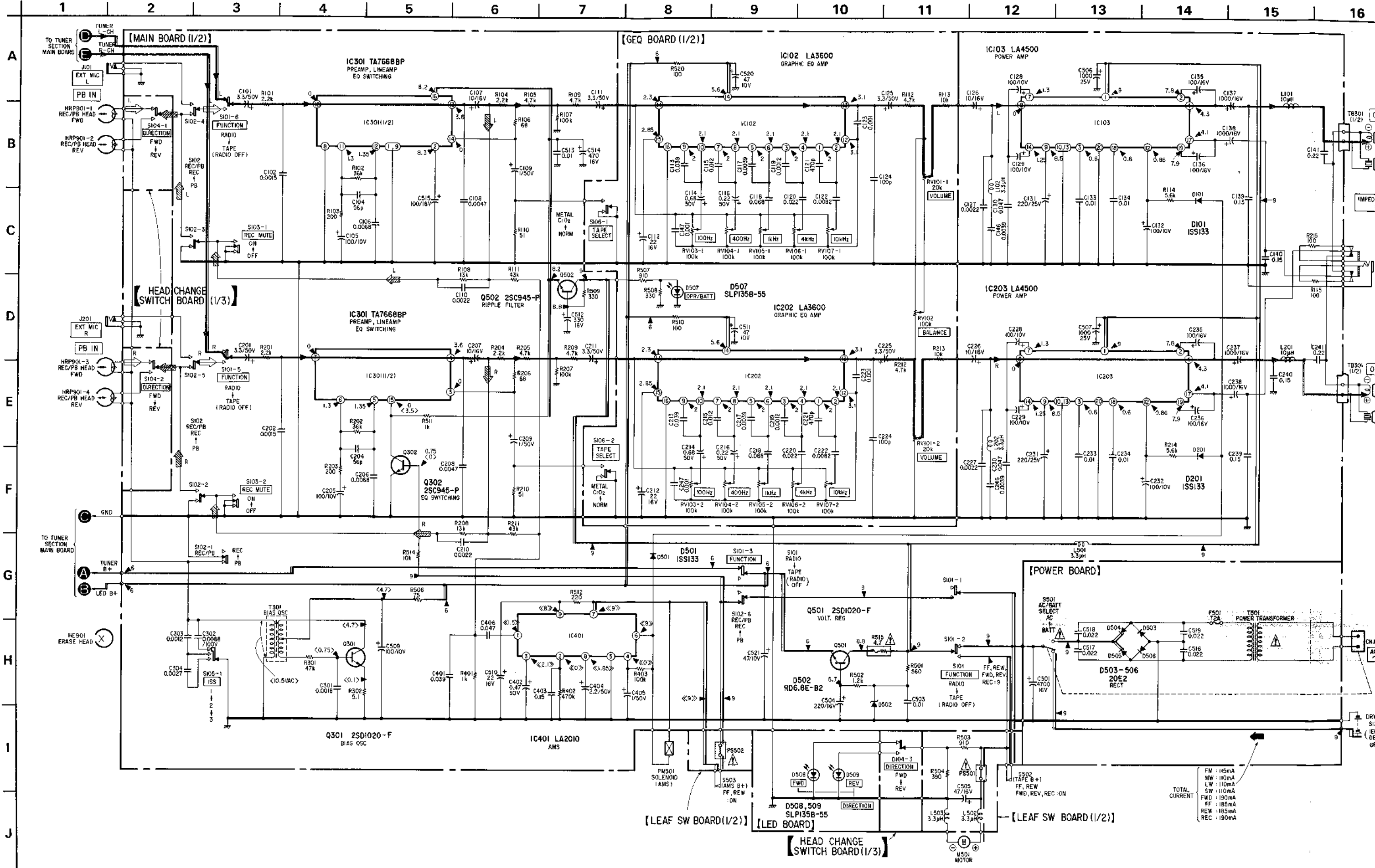


	1	2
A		
B		
C		
D		
E		
F		
G		
H		
I		
J		
K		
L		
M		
N		
	1	2

CFS-4000L CFS-4000L



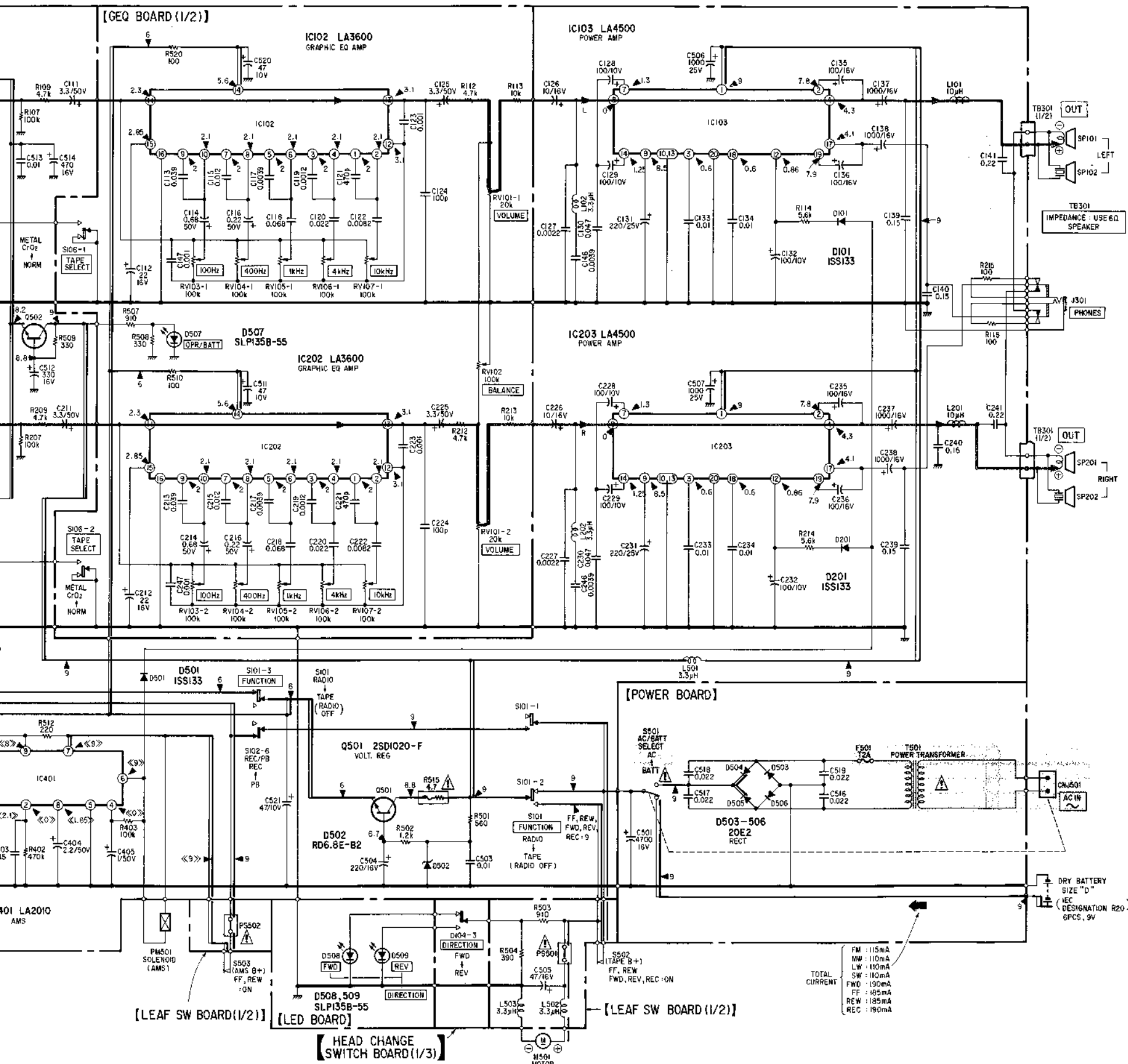
5-2. SCHEMATIC DIAGRAM -- AUDIO Section --



FM: 145mA
 MW: 100mA
 LW: 110mA
 SW: 110mA
 FWD: 190mA
 FF: 185mA
 REV: 185mA
 REC: 190mA

TOTAL CURRENT

7 8 9 10 11 12 13 14 15 16 17



- Note:**
- All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$. 50 WV 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.
 - : FM signal path
 - : PB Signal path,
 - : REC signal path

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

• : fusible resistor.

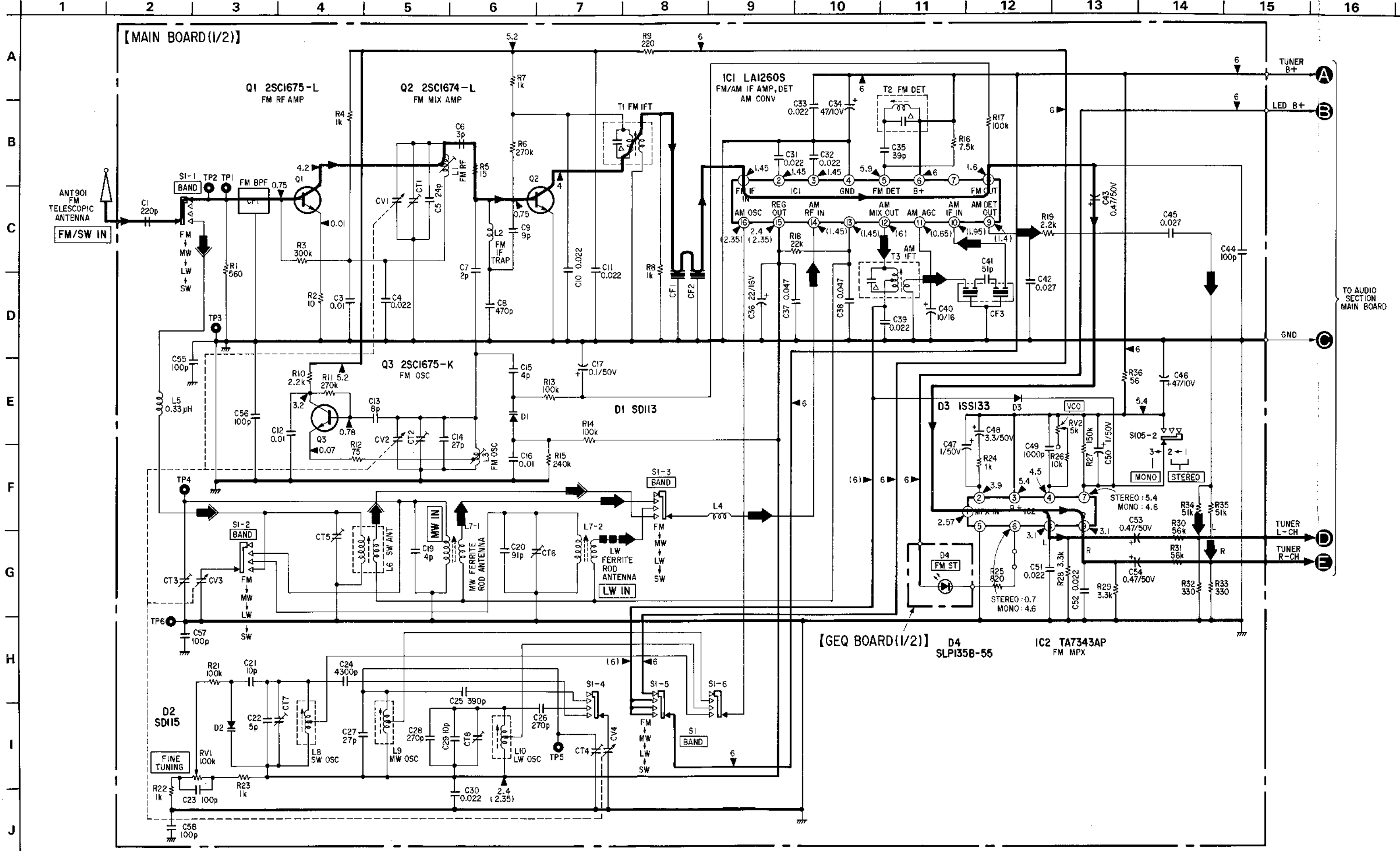
• Switch

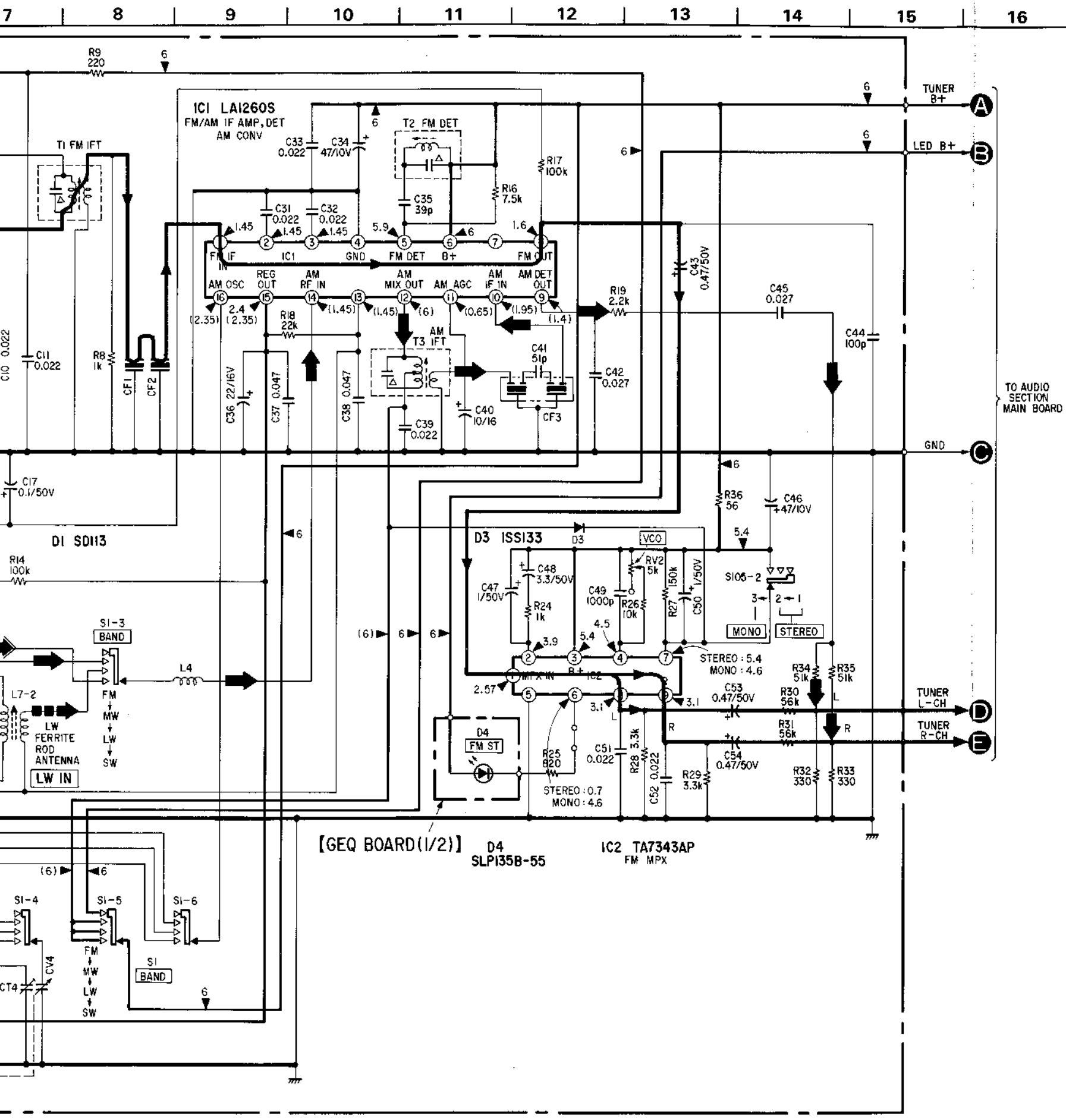
Ref. No.	Switch	Position
S101	FUNCTION	RADIO
S102	REC/PB	PB
S103	REC MUTE	OFF
S104	DIRECTION	FWD
S105-1	ISS	1
S106	TAPE SELECT	NORM
S501	AC/BATT SELECT	BATT
S502	TAPE B+	OFF
S503	AMS B+	"

- : B+ bus.
- AC voltage readings in the bias oscillator with a VTVM.
- Total current is measured with no cassette installed.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 $\text{k}\Omega/\text{V}$).
- No mark: FM or TAPE
- $\langle \rangle$: REC
- $\ll \gg$: AMS
- Voltage variations may be noted due to normal production tolerances.
- Power voltage is 9 V and fed with regulated dc power supply from battery terminal.

TOTAL CURRENT
 FM : 115mA
 MW : 110mA
 LW : 110mA
 SW : 110mA
 FWD : 190mA
 FF : 185mA
 REV : 185mA
 REC : 190mA

5-3. SCHEMATIC DIAGRAM - TUNER Section -





Note:

- All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$. 50 WV 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.
- : FM signal path → : MW signal path
 → : SW signal path → : LW signal path
- Δ : internal component.
- Switch

Ref. No.	Switch	Position
S1	BAND	FM
S105-2	STEREO/MONO	STEREO

- : B+ bus.
- : adjustment for repair.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 $\text{k}\Omega/\text{V}$).
- No Mark: FM or TAPE
- () : AM
- Voltage variations may be noted due to normal production tolerances.
- Power voltage is 9 V and fed with regulated dc power supply from battery terminal.

TO AUDIO SECTION MAIN BOARD


SECTION 6
EXPLODED VIEWS

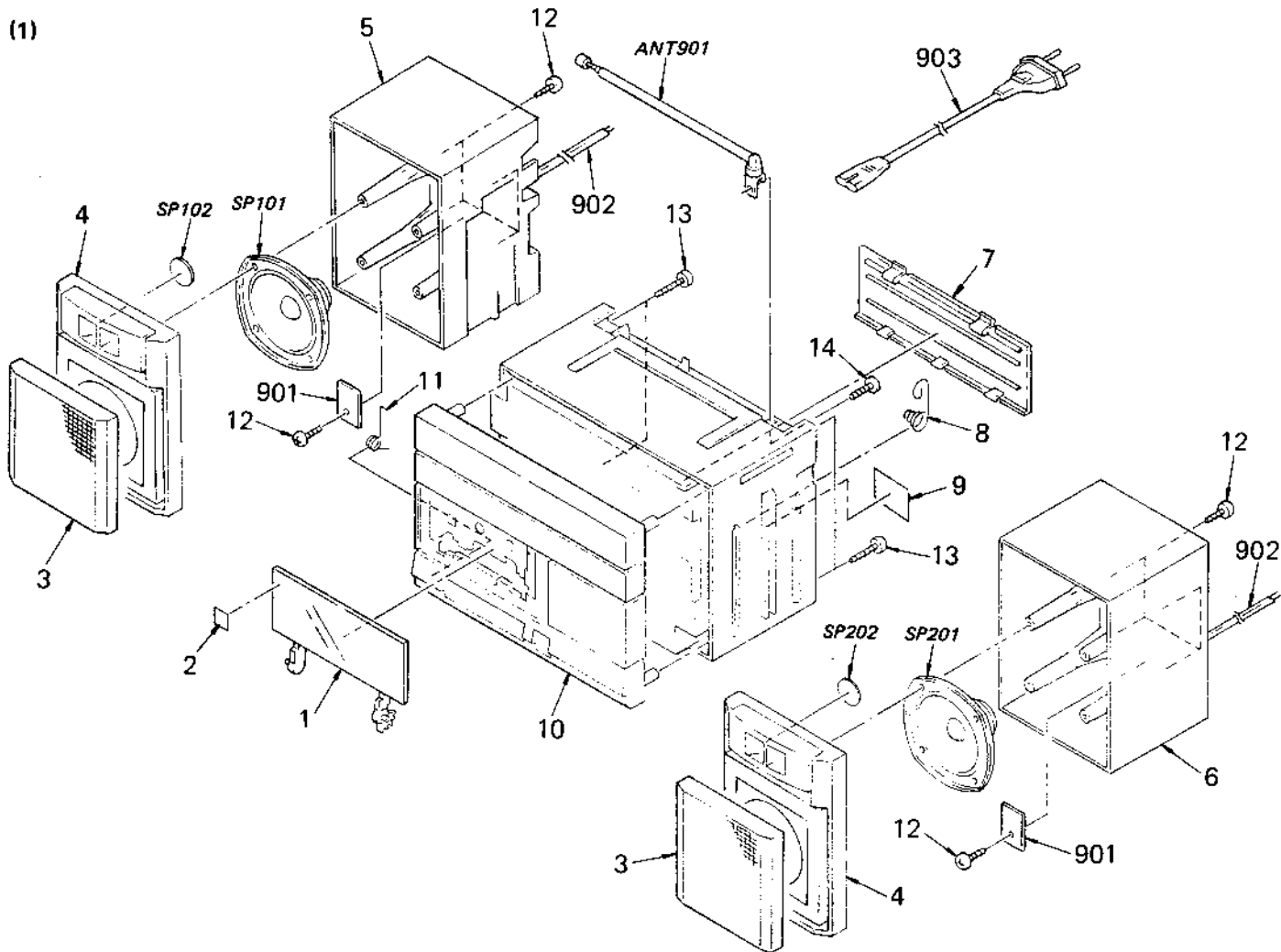
NOTE:



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.

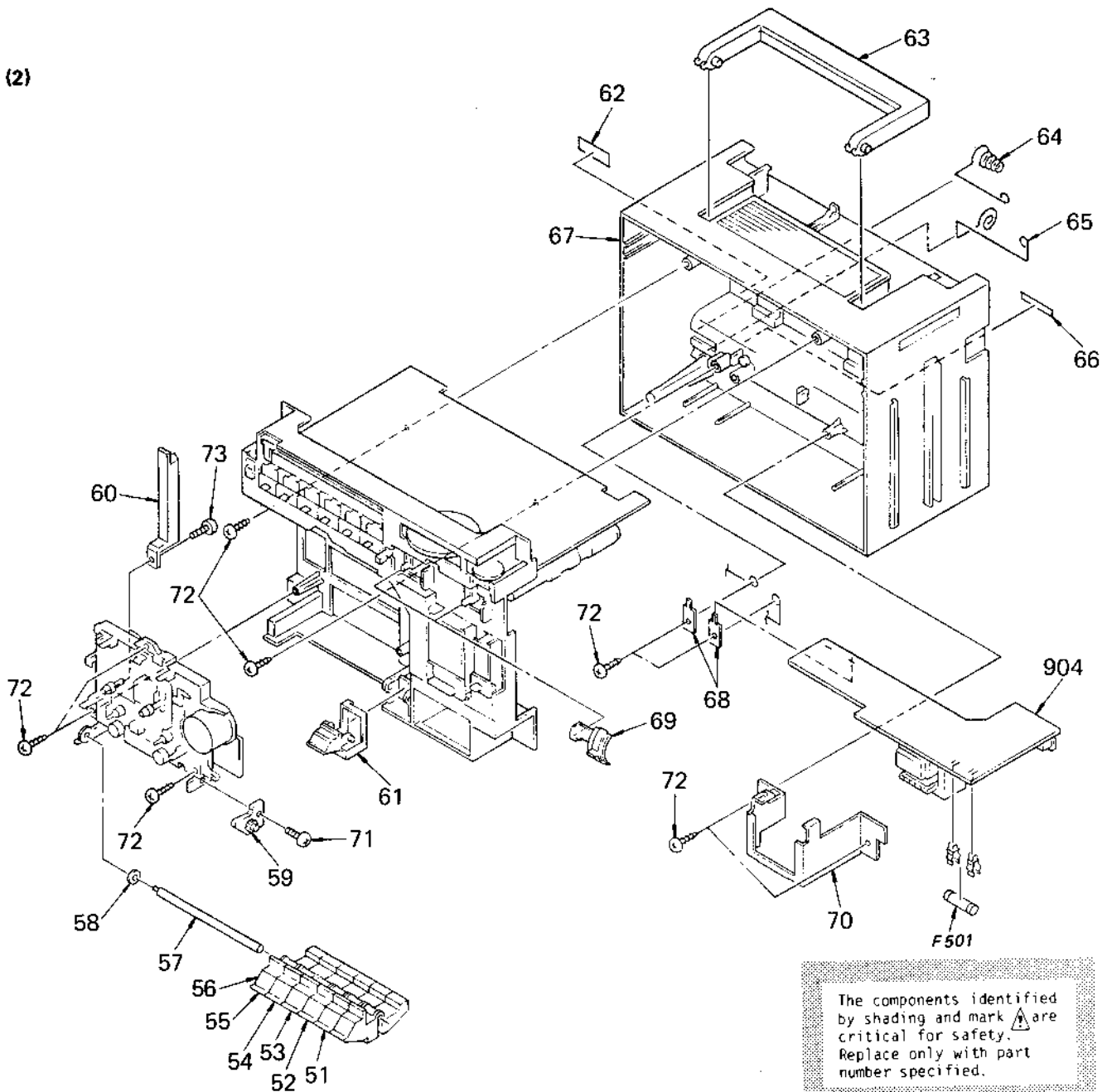
The components identified by shading and mark  are critical for safety. Replace only with part number specified.



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	X-3333-907-1 X-3333-907-2	(BLACK)...CASET LID ASSY (SILVER)...CASET LID ASSY		10	X-3333-909-4 X-3333-909-5	(SILVER)...FRONT CABI ASSY (BLACK)...FRONT CABI ASSY	
2	3-703-707-01	STICKER, SONY SYMBOL (21)		11	3-333-932-01	SPRING	
3	3-333-925-01	GRILLE, SPEAKER		12	7-685-647-14	SCREW +BVTP 3X10 TYPE2 N-S	
4	3-333-939-01 3-333-939-11	(BLACK)...BOX (FRONT), SPK (SILVER)...BOX (FRONT), SPK		13	7-685-651-11	SCREW +BVTP 3X20 TYPE1	
5	3-333-941-01 3-333-941-11	(BLACK)...BOX (REAR) (RIGHT), SPK (SILVER)...BOX (REAR) (RIGHT), SPK		14	7-682-552-04	SCREW +B 3X16	
6	3-333-940-01 3-333-940-11	(BLACK)...BOX (REAR) (LEFT), SPK (SILVER)...BOX (REAR) (LEFT), SPK		901	*1-619-075-11	PC BOARD, CORD CLAMP	
7	3-333-902-01 3-333-902-11	(BLACK)...LID, BATTERY CASE (SILVER)...LID, BATTERY CASE		902	1-557-463-11	CORD, SPEAKER	
8	3-333-929-01	SPRING		903	 1-556-359-00  1-556-360-00	(UK)...CORD, POWER (AEP)...CORD, POWER	
9	3-333-935-01	LABEL, MODEL NUMBER (AEP)		ANT901	1-501-306-11	ANTENNA, TELESCOPIC	
				SP101	1-503-635-11	SPEAKER	
				SP102	1-529-030-21	BUZZER	
				SP201	1-503-635-11	SPEAKER	
				SP202	1-529-030-21	BUZZER	

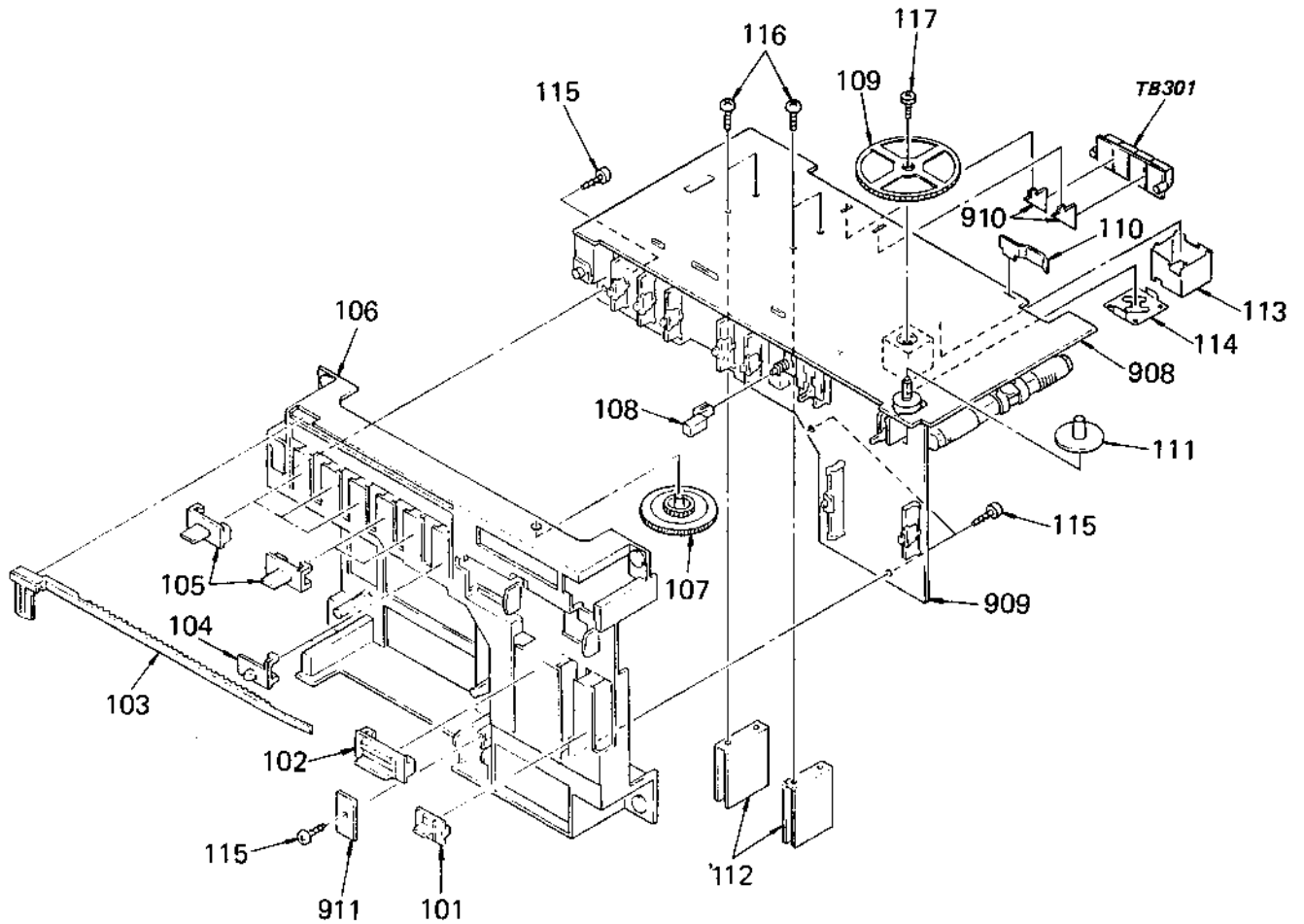
CFS-4000L

(2)



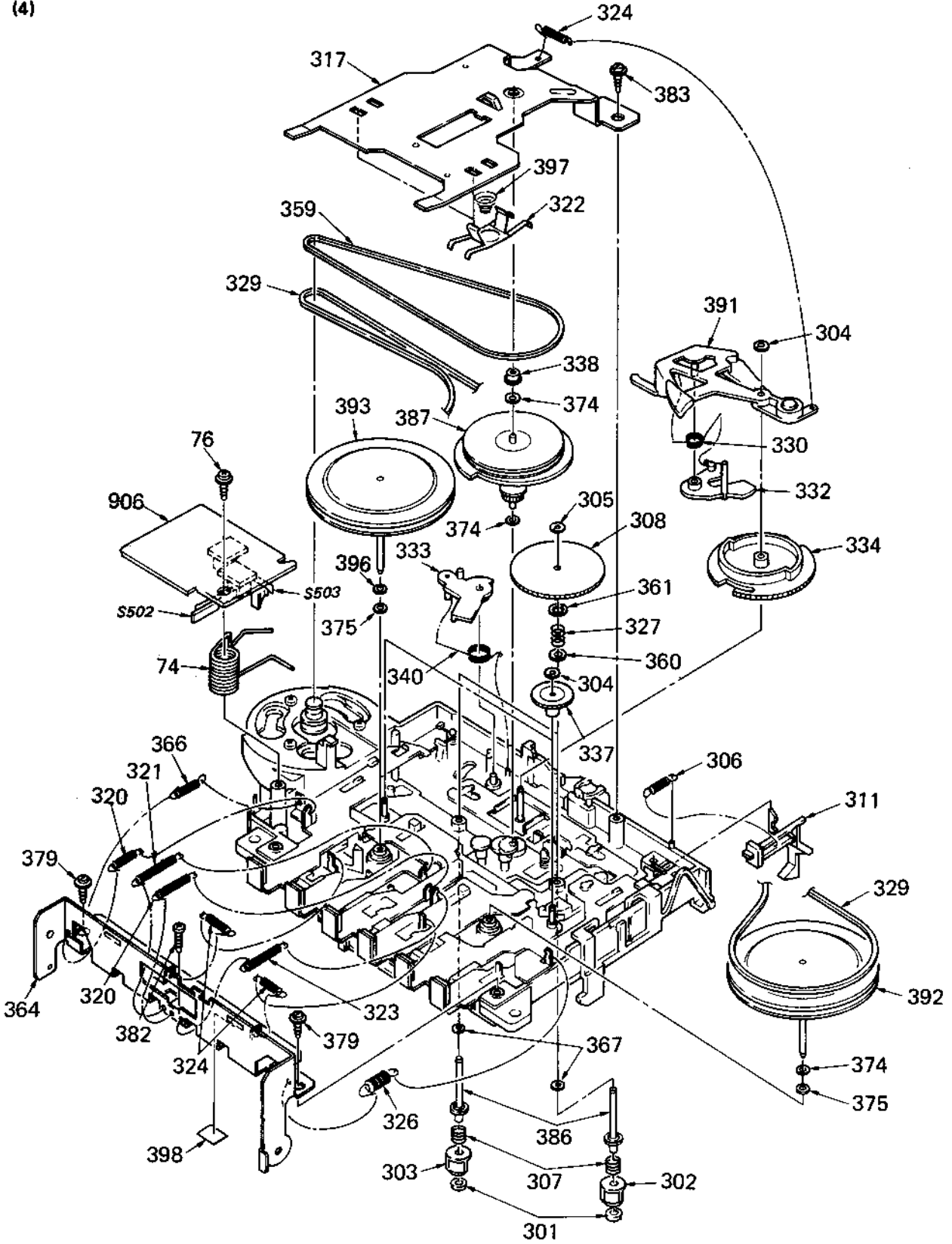
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	3-333-912-01	BUTTON, PAUSE		67	3-333-938-21	(BLACK)...CABINET, REAR	
52	3-333-911-01	BUTTON, FF			3-333-938-31	(SILVER)...CABINET, REAR	
53	3-333-910-01	BUTTON, REW		68	*3-333-931-01	TERMINAL BOARD, POWER	
54	3-333-909-01	BUTTON, PLAY		69	3-333-919-01	KNOB, FUNCTION	
55	3-333-908-01	BUTTON, REC		70	*3-333-926-01	BRACKET, TRANSFORMER	
56	3-333-907-01	BUTTON, S/E		71	7-682-546-04	SCREW +P 3X5	
57	3-319-513-01	SHAFT, MD BUTTON		72	7-685-647-14	SCREW +BVTP 3X10 TYPE2 N-S	
58	*3-333-922-01	BEARING, MD BUTTON		73	7-685-793-04	SCREW +BVTT 2.6X8 (S)	
59	3-319-512-01	GEAR, SE		904	*1-619-070-11	PC BOARD, POWER	
60	*3-333-924-01	ARM, REC		F501▲	1-532-203-00	FUSE, TIME-LAG, 2A	
61	3-333-913-01	BUTTON, DIRECTION					
62	3-703-845-01	(UK)...LABEL (MAIN CAUTION)					
63	X-3333-908-1	(BLACK)...HANDLE ASSY					
	X-3333-908-2	(SILVER)...HANDLE ASSY					
64	3-333-928-01	TERMINAL, MINUS					
65	3-333-927-01	TERMINAL, PLUS					
66	*3-701-999-00	LABEL, SERIAL NUMBER					

(3)



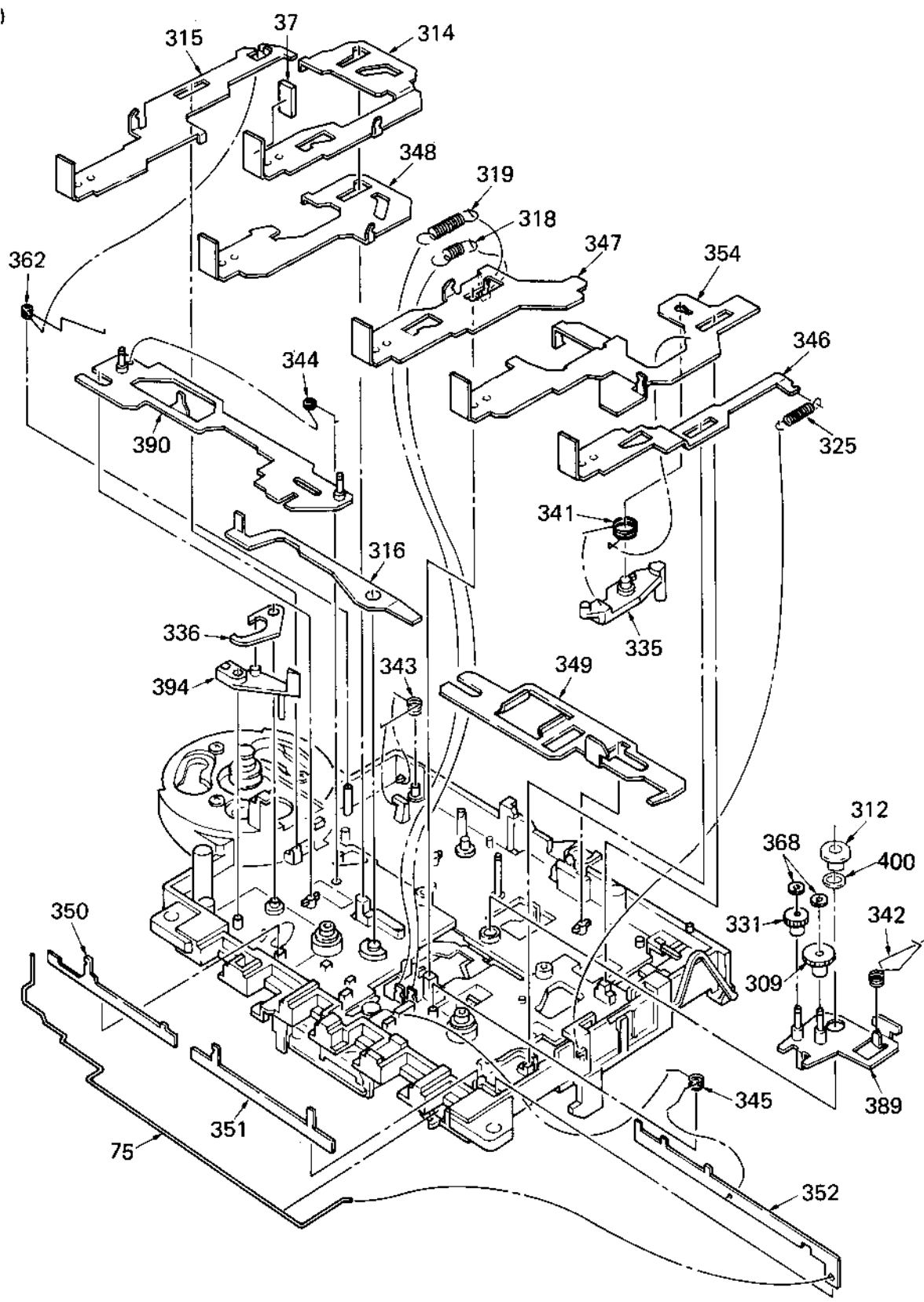
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
101	3-333-918-01	KNOB, BALANCE		112	*3-333-989-01	HEATSINK	
102	3-333-917-01	KNOB, VOL		113	*3-333-988-01	CASE, SHIELD	
103	*3-333-914-01	RACK, DIAL		114	*3-890-726-00	PLATE (C), SHIELD	
104	3-333-920-01	KNOB, TAPE SELECT		115	7-685-647-14	SCREW +BVTP 3X10 TYPE2 N-S	
105	3-333-916-01	KNOB, GEQ		116	7-685-754-01	SCREW +PTT 3X12 (S)	
106	*3-333-937-01	CHASSIS		117	7-621-259-45	SCREW +P 2.6X6	
107	3-333-915-01	KNOB, TUNING		908	*A-3260-408-A	MOUNTED PCB, MAIN	
108	3-322-334-11	KNOB, REC MUTE		909	*A-3279-587-A	MOUNTED PCB, GEQ	
109	*3-333-923-01	GEAR, VC		910	*1-619-069-11	PC BOARD, SP TERMINAL CLAMP	
110	*3-333-930-01	TERMINAL BOARD, ANTENNA		911	*1-619-074-11	PC BOARD, LED	
111	3-333-921-01	KNOB, FINE TUNING		TB30	1-536-705-21	TERMINAL BOARD (SP)	

(4)



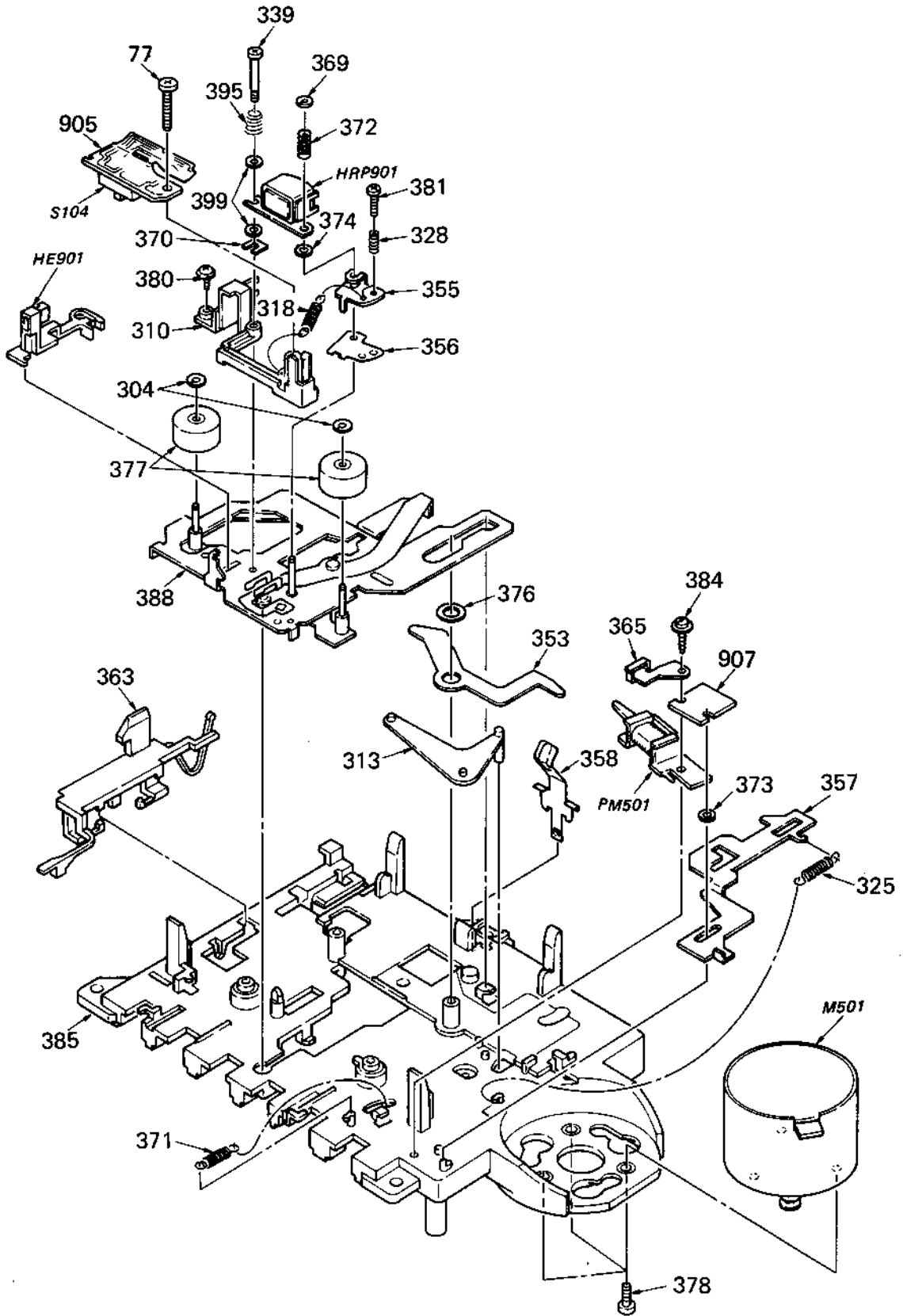
<u>No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remarks</u>
74	3-321-533-01	SPRING	
76	7-687-233-11	SCREW (+ PTPWH) (2.6X6)	
301	3-307-362-00	CAP, REEL	
302	3-307-363-00	CLAW (N), REEL	
303	3-307-447-00	CLAW (R), REEL	
304	3-307-948-01	WASHER, NYLON	
305	3-322-672-01	WASHER, NYLON	
306	3-313-384-01	SPRING, TENSION	
307	3-321-531-01	SPRING, COMPRESSION	
308	3-322-508-01	GEAR, REEL	
311	3-322-511-01	CLAW, ERASING PROTECTION	
317	*3-322-519-01	RETAINER, THRUST	
320	3-322-522-01	SPRING, TENSION	
321	3-322-523-01	SPRING, TENSION	
322	3-322-524-01	SPRING	
323	3-322-526-01	SPRING, TENSION(POWER TENSION)	
324	3-322-527-01	SPRING, TENSION	
326	3-322-691-01	SPRING, TENSION	
327	3-321-541-01	SPRING, COMPRESSION	
329	3-322-533-01	BELT	
330	3-322-534-01	SPRING	
332	3-322-551-01	LEVER (A), OA	
333	3-322-552-01	LEVER, GEAR LOCK	
334	3-322-553-01	GEAR, CAM	
337	3-322-556-01	GEAR, FR	
338	3-322-566-01	BEARING, PULLEY	
340	3-322-574-01	SPRING	
359	3-434-110-XX	BELT, COUNTER	
360	3-322-659-01	WASHER (A)	
361	3-322-660-01	WASHER (B)	
364	*3-322-702-01	RETAINER (B), LEVER	
366	3-530-260-00	SPRING, TENSION	
367	3-545-715-00	WASHER	
374	3-701-437-11	WASHER	
375	3-701-437-21	WASHER	
379	7-687-233-11	SCREW (+ PTPWH) (2.6X6)	
382	7-685-105-14	TPG +P 2X8, TYPE 2, NON-SLIT	
383	7-687-234-11	SCREW (+ PTPWH) (2.6X8)	
386	X-3321-501-1	BUSHING ASSY, REEL TABLE	
387	X-3322-501-1	DETECTION BLOCK ASSY	
391	X-3322-506-1	LEVER (B) ASSY, OA	
392	X-3322-507-1	FLYWHEEL (R) ASSY	
393	X-3322-508-1	FLYWHEEL (N) ASSY	
396	3-701-437-41	WASHER	
397	3-322-676-01	SPRING (S), COMPRESSION	
398	3-831-441-11	CUSHION (B)	
906	*1-619-076-11	PC BOARD, LEAF SW	
S502	1-570-013-11	SWITCH, LEAF (TAPE B+)	
S503	1-570-012-11	SWITCH, LEAF (AMS B+)	

(5)



<u>No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remarks</u>
75	*3-321-514-11	LEVER, SWITCH, POWER	
309	3-322-509-01	GEAR (A), FWD	
312	3-322-513-01	COLLAR	
314	*3-322-515-21	LEVER, REW BUTTON	
315	*3-322-516-21	LEVER, PAUSE BUTTON	
316	*3-322-517-01	LEVER, AMS	
318	3-322-520-01	SPRING, TENSION	
319	3-322-693-01	SPRING, TENSION	
325	3-322-528-01	SPRING, TENSION	
331	3-322-550-01	GEAR (B), FWD	
335	3-322-554-01	ARM, REC LOCK	
336	3-322-555-01	LEVER (E), S.OFF	
341	3-322-575-01	SPRING	
342	3-322-576-01	SPRING	
343	3-322-577-01	SPRING	
344	3-322-578-01	SPRING	
345	3-322-579-01	SPRING	
346	*3-322-583-21	LEVER, STOP BUTTON	
347	*3-322-584-21	LEVER, PLAY BUTTON	
348	*3-322-585-21	LEVER, FF BUTTON	
349	*3-322-586-01	LEVER, DIRECTION	
350	*3-322-587-01	PLATE (B), LOCK	
351	*3-322-588-01	PLATE (A), LOCK	
352	*3-322-589-01	LEVER, SWITCH	
354	*3-322-591-21	LEVER, REC BUTTON	
362	3-322-667-01	SPRING	
368	3-570-615-00	POLY-WASHER (DIA.1.2)	
389	*X-3322-504-1	ARM ASSY, FWD GEAR	
390	*X-3322-505-1	LEVER ASSY, FR	
394	X-3322-509-1	LEVER (D) ASSY, S.OFF	
400	3-322-689-01	RING	

(6)



<u>No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remarks</u>
77	7-621-772-68	SCREW #8 2X12	
304	3-307-948-01	WASHER, NYLON	
310	3-322-510-01	GUIDE, EBF	
313	3-322-514-01	LINK (A)	
318	3-322-520-01	SPRING, TENSION	
325	3-322-528-01	SPRING, TENSION	
328	3-322-531-01	SPRING, COMPRESSION	
339	3-322-567-01	SCREW, PAN, STEP	
353	*3-322-590-01	LEVER, DIRECTION RELEASE	
355	3-322-592-01	LEVER, AZIMUTH	
356	3-322-593-01	PLATE, AZIMUTH	
357	*3-322-594-01	LEVER, MANUAL BUTTON	
358	3-322-595-01	SPRING	
363	3-322-701-01	LEVER (B), EJECT	
365	*3-322-704-01	GUIDE, WIRING	
369	3-570-615-11	POLY-WASHER (DIA.1.2)	
370	3-573-466-01	SPACER, HEAD	
	3-573-466-11	SPACER, HEAD	
371	3-573-468-00	SPRING, TENSION	
372	3-579-759-00	SPRING, COMPRESSION	
373	3-701-437-01	WASHER	
374	3-701-437-11	WASHER	
376	3-701-443-01	WASHER, 5	
377	3-703-597-41	PINCH ROLLER, STANDARD	
378	7-621-770-87	SCREW +P 2.6X5	
380	7-621-955-35	SCREW (2MMX5), + PNH	
381	7-627-851-27	SCREW, PRECISION +P 1.4X5	
384	7-685-105-14	SCREW (2X8), + PTPWH	
385	A-3102-061-A	CHASSIS ASSY, MECHANICAL	
388	X-3322-503-1	CHASSIS ASSY, HEAD	
395	3-318-106-01	SPRING (H), COMPRESSION	
399	7-688-001-01	W 2, SMALL	
905	1-614-798-11	PC BOARD, HEAD CHANGE SWITCH	
907	1-602-735-00	PC BOARD	
HE901	A-3114-042-A	ARM ASSY, EBF (EBF 258-36)	
HRP901	8-825-537-62	HEAD, REC/PB (PP 238-3604E)	
M501	A-3133-210-A	MOTOR ASSY	
PM501	1-454-355-00	SOLENOID, PLUNGER	
S104	1-570-018-11	SWITCH, SLIDE (DIRECTION)	

SECTION 7 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:μpF.

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 **A** are critical for safety. Replace only with part number specified.

ELECTRICAL PARTS

Ref.No.	Part No.	Description
901	*1-619-075-11	PC BOARD, CORD CLAMP
902	1-557-463-11	CORD, SPEAKER
904	*1-619-070-11	PC BOARD, POWER
905	1-614-798-11	PC BOARD, HEAD CHANGE SWITCH
906	*1-619-076-11	PC BOARD, LEAF SW
907	1-602-735-00	PC BOARD
908	*A-3260-408-A	MOUNTED PCB, MAIN
909	*A-3279-587-A	MOUNTED PCB, GEQ
910	*1-619-069-11	PC BOARD, SP TERMINAL CLAMP
911	*1-619-074-11	PC BOARD, LED
ANT901	1-501-306-11	ANTENNA, TELESCOPIC
C1	1-102-110-00	CERAMIC 220PF 10% 50V
C3	1-101-004-00	CERAMIC 0.01MF 50V
C4	1-161-055-00	CERAMIC 0.022MF 10% 25V
C5	1-102-960-00	CERAMIC 24PF 5% 50V
C6	1-102-936-00	CERAMIC 3PF 0.25PF 50V
C7	1-102-502-00	CERAMIC 2PF 0.25PF 50V
C8	1-102-114-00	CERAMIC 470PF 10% 50V
C9	1-102-946-00	CERAMIC 9PF 0.5PF 50V
C10	1-101-005-00	CERAMIC 0.022MF 50V
C11	1-101-005-00	CERAMIC 0.022MF 50V
C12	1-161-013-00	CERAMIC 0.01MF 10% 25V
C13	1-102-865-00	CERAMIC 8PF 0.5PF 50V
C14	1-102-643-00	CERAMIC 27PF 5% 50V
C15	1-102-504-00	CERAMIC 4PF 0.25PF 50V
C16	1-161-013-00	CERAMIC 0.01MF 10% 25V
C17	1-123-607-00	ELECT 0.1MF 20% 50V
C19	1-102-937-00	CERAMIC 4PF 0.25PF 50V
C20	1-102-972-00	CERAMIC 91PF 5% 50V
C21	1-102-508-00	CERAMIC 10PF 0.5PF 50V
C22	1-102-280-00	CERAMIC 5PF 0.5PF 50V
C23	1-102-973-00	CERAMIC 100PF 5% 50V
C24	1-103-740-00	POLYSTYRENE 0.0043MF 5% 50V
C25	1-104-067-00	POLYSTYRENE 390PF 5% 50V
C26	1-103-711-00	POLYSTYRENE 270PF 5% 50V
C27	1-102-806-00	CERAMIC 27PF 5% 50V
C28	1-103-711-00	POLYSTYRENE 270PF 5% 50V
C29	1-102-508-00	CERAMIC 10PF 0.5PF 50V
C30	1-101-005-00	CERAMIC 0.022MF 50V
C31	1-101-005-00	CERAMIC 0.022MF 50V
C32	1-101-005-00	CERAMIC 0.022MF 50V
C33	1-101-005-00	CERAMIC 0.022MF 50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description
C34	1-123-306-00	ELECT 47MF 20% 10V
C35	1-102-965-00	CERAMIC 39PF 5% 50V
C36	1-123-330-00	ELECT 22MF 20% 16V
C37	1-161-059-00	CERAMIC 0.047MF 10% 25V
C38	1-161-059-00	CERAMIC 0.047MF 10% 25V
C39	1-101-005-00	CERAMIC 0.022MF 50V
C40	1-123-356-00	ELECT 10MF 20% 16V
C41	1-101-882-00	CERAMIC 51PF 5% 50V
C42	1-161-056-00	CERAMIC 0.027MF 10% 25V
C43	1-123-379-00	ELECT 0.47MF 20% 50V
C44	1-102-973-00	CERAMIC 100PF 5% 50V
C45	1-161-056-00	CERAMIC 0.027MF 10% 25V
C46	1-123-306-00	ELECT 47MF 20% 10V
C47	1-123-380-00	ELECT 1MF 20% 50V
C48	1-123-382-00	ELECT 3.3MF 20% 50V
C49	1-104-077-00	POLYSTYRENE 0.001MF 5% 50V
C50	1-123-380-00	ELECT 1MF 20% 50V
C51	1-161-055-00	CERAMIC 0.022MF 10% 25V
C52	1-161-055-00	CERAMIC 0.022MF 10% 25V
C53	1-123-379-00	ELECT 0.47MF 20% 50V
C54	1-123-379-00	ELECT 0.47MF 20% 50V
C55	1-102-973-00	CERAMIC 100PF 5% 50V
C56	1-102-973-00	CERAMIC 100PF 5% 50V
C57	1-102-973-00	CERAMIC 100PF 5% 50V
C58	1-102-973-00	CERAMIC 100PF 5% 50V
C101	1-123-382-00	ELECT 3.3MF 20% 50V
C102	1-102-119-00	CERAMIC 0.0015MF 10% 50V
C104	1-101-884-00	CERAMIC 56PF 5% 50V
C105	1-123-307-00	ELECT 100MF 20% 10V
C106	1-102-127-21	CERAMIC 0.0068MF 10% 50V
C107	1-123-356-00	ELECT 10MF 20% 16V
C108	1-102-125-00	CERAMIC 0.0047MF 10% 50V
C109	1-123-380-00	ELECT 1MF 20% 50V
C110	1-161-043-00	CERAMIC 0.0022MF 10% 25V
C111	1-123-382-00	ELECT 3.3MF 20% 50V
C112	1-123-330-00	ELECT 22MF 20% 16V
C113	1-161-058-00	CERAMIC 0.039MF 10% 25V
C114	1-123-902-00	ELECT 0.68MF 20% 50V
C115	1-161-052-00	CERAMIC 0.012MF 10% 25V
C116	1-123-608-00	ELECT 0.22MF 20% 50V
C117	1-161-046-00	CERAMIC 0.0039MF 10% 25V
C118	1-161-023-00	CERAMIC 0.068MF 10% 25V
C119	1-161-040-00	CERAMIC 0.0012MF 10% 25V
C120	1-161-055-00	CERAMIC 0.022MF 10% 25V
C121	1-102-114-00	CERAMIC 470PF 10% 50V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C122	1-161-012-00	CERAMIC	0.0082MF	10%	25V
C123	1-102-074-00	CERAMIC	0.001MF	10%	50V
C124	1-102-106-00	CERAMIC	100PF	10%	50V
C125	1-123-382-00	ELECT	3.3MF	20%	50V
C126	1-123-356-00	ELECT	10MF	20%	16V
C127	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C128	1-123-307-00	ELECT	100MF	20%	10V
C129	1-123-307-00	ELECT	100MF	20%	10V
C130	1-161-059-00	CERAMIC	0.047MF	10%	25V
C131	1-123-334-00	ELECT	220MF	20%	25V
C132	1-123-307-00	ELECT	100MF	20%	10V
C133	1-161-013-00	CERAMIC	0.01MF	10%	25V
C134	1-161-013-00	CERAMIC	0.01MF	10%	25V
C135	1-123-333-00	ELECT	100MF	20%	16V
C136	1-123-333-00	ELECT	100MF	20%	16V
C137	1-123-324-00	ELECT	1000MF	20%	16V
C138	1-123-324-00	ELECT	1000MF	20%	16V
C139	1-130-497-00	MYLAR	0.15MF	5%	50V
C140	1-130-497-00	MYLAR	0.15MF	5%	50V
C141	1-136-169-00	FILM	0.22MF	5%	50V
C146	1-161-046-00	CERAMIC	0.0039MF	10%	25V
C147	1-102-074-00	CERAMIC	0.001MF	10%	50V
C201	1-123-382-00	ELECT	3.3MF	20%	50V
C202	1-102-119-00	CERAMIC	0.0015MF	10%	50V
C204	1-101-884-00	CERAMIC	56PF	5%	50V
C205	1-123-307-00	ELECT	100MF	20%	10V
C206	1-102-127-21	CERAMIC	0.0068MF	10%	50V
C207	1-123-356-00	ELECT	10MF	20%	16V
C208	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C209	1-123-380-00	ELECT	1MF	20%	50V
C210	1-161-043-00	CERAMIC	0.0022MF	10%	25V
C211	1-123-382-00	ELECT	3.3MF	20%	50V
C212	1-123-330-00	ELECT	22MF	20%	16V
C213	1-161-058-00	CERAMIC	0.039MF	10%	25V
C214	1-123-902-00	ELECT	0.68MF	20%	50V
C215	1-161-052-00	CERAMIC	0.012MF	10%	25V
C216	1-123-608-00	ELECT	0.22MF	20%	50V
C217	1-161-046-00	CERAMIC	0.0039MF	10%	25V
C218	1-161-023-00	CERAMIC	0.068MF	10%	25V
C219	1-161-040-00	CERAMIC	0.0012MF	10%	25V
C220	1-161-055-00	CERAMIC	0.022MF	10%	25V
C221	1-102-114-00	CERAMIC	470PF	10%	50V
C222	1-161-012-00	CERAMIC	0.0082MF	10%	25V
C223	1-102-074-00	CERAMIC	0.001MF	10%	50V
C224	1-102-106-00	CERAMIC	100PF	10%	50V
C225	1-123-382-00	ELECT	3.3MF	20%	50V
C226	1-123-356-00	ELECT	10MF	20%	16V
C227	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C228	1-123-307-00	ELECT	100MF	20%	10V
C229	1-123-307-00	ELECT	100MF	20%	10V
C230	1-161-059-00	CERAMIC	0.047MF	10%	25V
C231	1-123-334-00	ELECT	220MF	20%	25V
C232	1-123-307-00	ELECT	100MF	20%	10V
C233	1-161-013-00	CERAMIC	0.01MF	10%	25V

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C234	1-161-013-00	CERAMIC	0.01MF	10%	25V
C235	1-123-333-00	ELECT	100MF	20%	16V
C236	1-123-333-00	ELECT	100MF	20%	16V
C237	1-123-324-00	ELECT	1000MF	20%	16V
C238	1-123-324-00	ELECT	1000MF	20%	16V
C239	1-130-497-00	MYLAR	0.15MF	5%	50V
C240	1-130-497-00	MYLAR	0.15MF	5%	50V
C241	1-136-169-00	FILM	0.22MF	5%	50V
C246	1-161-046-00	CERAMIC	0.0039MF	10%	25V
C247	1-102-074-00	CERAMIC	0.001MF	10%	50V
C301	1-130-474-00	MYLAR	0.0018MF	5%	50V
C302	1-108-375-12	MYLAR	0.0068MF	5%	100V
C303	1-161-040-00	CERAMIC	0.0012MF	10%	25V
C304	1-161-044-00	CERAMIC	0.0027MF	10%	25V
C401	1-161-058-00	CERAMIC	0.039MF	10%	25V
C402	1-123-379-00	ELECT	0.47MF	20%	50V
C403	1-136-167-00	FILM	0.15MF	5%	50V
C404	1-123-381-00	ELECT	2.2MF	20%	50V
C405	1-123-380-00	ELECT	1MF	20%	50V
C406	1-130-491-00	MYLAR	0.047MF	5%	50V
C501	1-123-327-00	ELECT	4700MF	20%	16V
C503	1-161-013-00	CERAMIC	0.01MF	10%	25V
C504	1-123-321-00	ELECT	220MF	20%	16V
C505	1-123-332-00	ELECT	47MF	20%	16V
C506	1-123-349-00	ELECT	1000MF	20%	25V
C507	1-123-349-00	ELECT	1000MF	20%	25V
C509	1-123-307-00	ELECT	100MF	20%	10V
C510	1-123-330-00	ELECT	22MF	20%	16V
C511	1-123-306-00	ELECT	47MF	20%	10V
C512	1-123-322-00	ELECT	330MF	20%	16V
C513	1-161-013-00	CERAMIC	0.01MF	10%	25V
C514	1-123-323-00	ELECT	470MF	20%	16V
C515	1-123-333-00	ELECT	100MF	20%	16V
C516	1-101-005-00	CERAMIC	0.022MF		50V
C517	1-101-005-00	CERAMIC	0.022MF		50V
C518	1-101-005-00	CERAMIC	0.022MF		50V
C519	1-101-005-00	CERAMIC	0.022MF		50V
C520	1-123-306-00	ELECT	47MF	20%	10V
C521	1-123-306-00	ELECT	47MF	20%	10V
CF1	1-527-808-00	FILTER, CERAMIC			
CF2	1-527-808-00	FILTER, CERAMIC			
CF3	1-527-865-00	FILTER, CERAMIC			
CNP1	*1-564-778-11	PLUG, CONNECTOR (2.5MM) 4P			
CNP2	*1-564-779-11	PLUG, CONNECTOR (2.5MM) 6P			
CNP3	*1-564-777-11	PLUG, CONNECTOR (2.5MM) 2P			
CNP4	*1-506-805-11	CONNECTOR, (L) TYPE			
CP1	1-231-720-00	FILTER, BANDPASS			
CT1-4	1-151-387-00	CAP, TUNING, POLYETHYLENE			
CV1-4					
CT5	1-141-290-11	CAP, VAR FILM TRIMMER			
CT6	1-141-245-00	TRIMMER, CERAMIC			
CT7	1-141-290-11	CAP, VAR FILM TRIMMER			
CT8	1-141-245-00	TRIMMER, CERAMIC			

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


CFS-4000L

ELECTRICAL PARTS

Ref.No.	Part No.	Description
D1	8-719-768-71	DIODE 1S2687S-1
D2	8-719-713-93	DIODE 1S2139C
D3	8-719-901-33	DIODE 1SS133
D4	8-719-812-41	DIODE TLR124
D101	8-719-901-33	DIODE 1SS133
D201	8-719-901-33	DIODE 1SS133
D501	8-719-901-33	DIODE 1SS133
D502	8-719-100-41	DIODE RD6.8EB2
D503	8-719-200-62	DIODE 20E2H
D504	8-719-200-62	DIODE 20E2H
D505	8-719-200-62	DIODE 20E2H
D506	8-719-200-62	DIODE 20E2H
D507	8-719-812-41	DIODE TLR124
D508	8-719-812-41	DIODE TLR124
D509	8-719-812-41	DIODE TLR124
HE901	A-3114-042-A	ARM ASSY, EBF (EBF258-36)
HRP901	8-825-537-62	HEAD, REC/PB (PP238-3604E)
IC1	8-759-801-24	IC LA1260S
IC2	8-759-203-87	IC TA7343AP
IC102	8-759-801-23	IC LA3600
IC103	8-759-802-47	IC LA4500
IC202	8-759-801-23	IC LA3600
IC203	8-759-802-47	IC LA4500
IC301	8-759-205-91	IC TA7668BP
IC401	8-759-800-71	IC LA2010
J101	1-507-678-21	JACK (EXT MIC L)
J201	1-507-678-21	JACK (EXT MIC R)
J301	1-563-342-11	JACK (PHONES)
L1	1-426-180-11	COIL, FM RF
L2	*1-409-293-00	COIL, AIR CORE
L3	*1-425-792-00	COIL, HIGH FREQ TRANSFORMER(FM)
L4	*1-409-293-00	COIL, AIR CORE
L5	1-410-313-31	MICRO INDUCTOR 0.33UH
L6	1-402-169-11	COIL, ANTENNA (SW)
L7	1-402-107-11	ANTENNA, FERRITE-ROD (LW/MW)
L8	1-406-152-11	COIL, OSCILLATION (SW)
L9	1-406-059-00	COIL, OSC
L10	1-406-151-11	COIL, OSCILLATION (LW)
L101	1-459-567-11	COIL (WITH CORE)
L102	1-409-389-11	COIL, TRAP
L201	1-459-567-11	COIL (WITH CORE)
L202	1-409-389-11	COIL, TRAP
L501	1-408-177-00	MICRO INDUCTOR 3.3UH
L502	1-408-111-00	MICRO INDUCTOR 3.3UH
L503	1-408-111-00	MICRO INDUCTOR 3.3UH
M501	A-3133-210-A	MOTOR ASSY
PM501	1-454-355-00	SOLENOID, PLUNGER

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
Q1	8-729-672-42	TRANSISTOR 2SC2724-C			
Q2	8-729-178-63	TRANSISTOR 2SC2786-K			
Q3	8-729-672-43	TRANSISTOR 2SC2724-D			
Q301	8-729-102-04	TRANSISTOR 2SD1020-F			
Q302	8-729-194-57	TRANSISTOR 2SC945-P			
Q501	8-729-102-04	TRANSISTOR 2SD1020-F			
Q502	8-729-194-57	TRANSISTOR 2SC945-P			
R1	1-249-414-11	CARBON	560	5%	1/6W
R2	1-247-783-00	CARBON	10	5%	1/6W
R3	1-247-890-00	CARBON	300K	5%	1/6W
R4	1-249-417-11	CARBON	1K	5%	1/6W
R5	1-247-787-00	CARBON	15	5%	1/6W
R6	1-247-889-00	CARBON	270K	5%	1/6W
R7	1-249-417-11	CARBON	1K	5%	1/6W
R8	1-249-417-11	CARBON	1K	5%	1/6W
R9	1-247-815-00	CARBON	220	5%	1/6W
R10	1-249-421-11	CARBON	2.2K	5%	1/6W
R11	1-247-889-00	CARBON	270K	5%	1/6W
R12	1-247-804-00	CARBON	75	5%	1/6W
R13	1-249-441-11	CARBON	100K	5%	1/6W
R14	1-249-441-11	CARBON	100K	5%	1/6W
R15	1-247-888-00	CARBON	240K	5%	1/6W
R16	1-247-852-00	CARBON	7.5K	5%	1/6W
R17	1-249-441-11	CARBON	100K	5%	1/6W
R18	1-249-433-11	CARBON	22K	5%	1/6W
R19	1-249-421-11	CARBON	2.2K	5%	1/6W
R21	1-249-441-11	CARBON	100K	5%	1/6W
R22	1-249-417-11	CARBON	1K	5%	1/6W
R23	1-249-417-11	CARBON	1K	5%	1/6W
R24	1-249-417-11	CARBON	1K	5%	1/6W
R25	1-247-829-00	CARBON	820	5%	1/6W
R26	1-249-429-11	CARBON	10K	5%	1/6W
R27	1-247-883-00	CARBON	150K	5%	1/6W
R28	1-247-843-00	CARBON	3.3K	5%	1/6W
R29	1-247-843-00	CARBON	3.3K	5%	1/6W
R30	1-247-873-00	CARBON	56K	5%	1/6W
R31	1-247-873-00	CARBON	56K	5%	1/6W
R32	1-247-819-00	CARBON	330	5%	1/6W
R33	1-247-819-00	CARBON	330	5%	1/6W
R34	1-247-872-00	CARBON	51K	5%	1/6W
R35	1-247-872-00	CARBON	51K	5%	1/6W
R36	1-247-801-00	CARBON	56	5%	1/6W
R101	1-249-421-11	CARBON	2.2K	5%	1/6W
R102	1-247-868-00	CARBON	36K	5%	1/6W
R103	1-247-814-00	CARBON	200	5%	1/6W
R104	1-249-421-11	CARBON	2.2K	5%	1/6W
R105	1-249-425-11	CARBON	4.7K	5%	1/6W
R106	1-247-803-00	CARBON	68	5%	1/6W
R107	1-247-879-00	CARBON	100K	5%	1/6W
R108	1-247-858-00	CARBON	13K	5%	1/6W
R109	1-249-425-11	CARBON	4.7K	5%	1/6W
R110	1-247-800-00	CARBON	51	5%	1/6W
R111	1-247-870-00	CARBON	43K	5%	1/6W
R112	1-249-425-11	CARBON	4.7K	5%	1/6W
R113	1-249-429-11	CARBON	10K	5%	1/6W

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

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
R114	1-247-849-00	CARBON	5.6K	5%	1/6W
R115	1-249-405-11	CARBON	100	5%	1/6W
R201	1-249-421-11	CARBON	2.2K	5%	1/6W
R202	1-247-868-00	CARBON	36K	5%	1/6W
R203	1-247-814-00	CARBON	200	5%	1/6W
R204	1-249-421-11	CARBON	2.2K	5%	1/6W
R205	1-249-425-11	CARBON	4.7K	5%	1/6W
R206	1-247-803-00	CARBON	68	5%	1/6W
R207	1-247-879-00	CARBON	100K	5%	1/6W
R208	1-247-858-00	CARBON	13K	5%	1/6W
R209	1-249-425-11	CARBON	4.7K	5%	1/6W
R210	1-247-800-00	CARBON	51	5%	1/6W
R211	1-247-870-00	CARBON	43K	5%	1/6W
R212	1-249-425-11	CARBON	4.7K	5%	1/6W
R213	1-249-429-11	CARBON	10K	5%	1/6W
R214	1-247-849-00	CARBON	5.6K	5%	1/6W
R215	1-249-405-11	CARBON	100	5%	1/6W
R301	1-249-437-11	CARBON	47K	5%	1/6W
R302	1-247-776-00	CARBON	5.1	5%	1/6W
R401	1-249-417-11	CARBON	1K	5%	1/6W
R402	1-247-895-00	CARBON	470K	5%	1/6W
R403	1-249-441-11	CARBON	100K	5%	1/6W
R501	1-249-414-11	CARBON	560	5%	1/6W
R502	1-247-833-00	CARBON	1.2K	5%	1/6W
R503	1-247-830-00	CARBON	910	5%	1/6W
R504	1-247-821-00	CARBON	390	5%	1/6W
R506	1-247-804-00	CARBON	75	5%	1/6W
R507	1-247-830-00	CARBON	910	5%	1/6W
R508	1-247-819-00	CARBON	330	5%	1/6W
R509	1-247-819-00	CARBON	330	5%	1/6W
R510	1-249-405-11	CARBON	100	5%	1/6W
R511	1-249-417-11	CARBON	1K	5%	1/6W
R512	1-247-815-00	CARBON	220	5%	1/6W
R514	1-249-429-11	CARBON	10K	5%	1/6W
R520	1-249-405-11	CARBON	100	5%	1/6W
RV1	1-230-477-11	RES, VAR, CARBON 100K			
RV2	1-228-723-00	RES, ADJ, CARBON 5K			
RV101	1-237-277-11	RES, VAR, SLIDE 20K/20K (VOLUME)			
RV102	1-237-276-11	RES, VAR, SLIDE 100K (BALANCE)			
RV103	1-237-275-11	RES, VAR, SLIDE 100K/100K (G.EQ 100Hz)			
RV104	1-237-275-11	RES, VAR, SLIDE 100K/100K (G.EQ 400Hz)			
RV105	1-237-275-11	RES, VAR, SLIDE 100K/100K (G.EQ 1kHz)			
RV106	1-237-275-11	RES, VAR, SLIDE 100K/100K (G.EQ 4kHz)			
RV107	1-237-275-11	RES, VAR, SLIDE 100K/100K (G.EQ 10kHz)			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
S1	1-554-885-11	SWITCH, LEVER SLIDE (BAND)
S101	1-570-677-11	SWITCH, LEVER (FUNCTION)
S102	1-570-672-11	SWITCH, LEVER SLIDE (REC/PB)
S103	1-570-452-11	SWITCH, PUSH (1 KEY)(REC MUTE)
S104	1-570-018-11	SWITCH, SLIDE (DIRECTION)
S105	1-554-061-00	SWITCH, SLIDE (ISS)
S106	1-570-673-11	SWITCH, SLIDE (TAPE SELECT)
S502	1-570-013-11	SWITCH, LEAF (TAPE B+)
S503	1-570-012-11	SWITCH, LEAF (AMS B+)
SP101	1-503-635-11	SPEAKER
SP102	1-529-030-21	BUZZER
SP201	1-503-635-11	SPEAKER
SP202	1-529-030-21	BUZZER
T1	1-403-872-00	I.F.T CONVERTER FM (SMALL TYPE)
T2	1-404-249-00	COIL, FM DETECTOR
T3	1-404-355-00	TRANSFORMER, IF
T301	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR
TB30	1-536-705-21	TERMINAL BOARD (SP)

ACCESSORY & PACKING MATERIAL

Part No.	Description
3-701-632-00	BAG, POLYETHYLENE
*3-701-999-00	LABEL, SERIAL NUMBER
3-703-707-01	STICKER, SONY SYMBOL (21)
3-703-895-01	LABEL, COLOR
3-703-906-01	LABEL, COLOR
*3-764-430-01	INSTRUCTION, DBP CAUTION
3-765-263-11	MANUAL, INSTRUCTION
3-881-644-00	PEOTECTION BAG
1-555-234-00	CORD, POWER
1-555-360-00	CORD, POWER

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