

CFS-905

SERVICE MANUAL

US Model
Canadian Model



Photo: WHITE

MEGA BASS

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MF-905-102

SPECIFICATIONS

Audio Power Specifications (US model)

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 3.2 ohm loads, both channels driven, from 150 to 10,000 Hz; rated 1.3 W per channel minimum RMS power, with no more than 10% total harmonic distortion AC operation.

Other Specifications

Tuner frequency range	FM87.6 – 108 MHz AM530 – 1,710 kHz
Frequency response	80 Hz – 10,000Hz
Speakers	10 cm (4 in.) dia. full range × 2
Power output	2 W + 2 W (at 10% harmonic distortion) in DC operation

Outputs	Headphones jack (stereo minijack) for 8 – 300 ohm impedance headphones
Power requirements	9 V DC, six size C (R14) batteries DC IN 9 V jack accepts: Supplied AC power adaptor for use with: 120 V AC, 60 Hz

Battery life

Batteries	FM recording	Tape playing
Sony SUM-2 (NS)	Approx. 11 hours	Approx. 14 hours
Sony AM2 alkaline	Approx. 23 hours	Approx. 30 hours

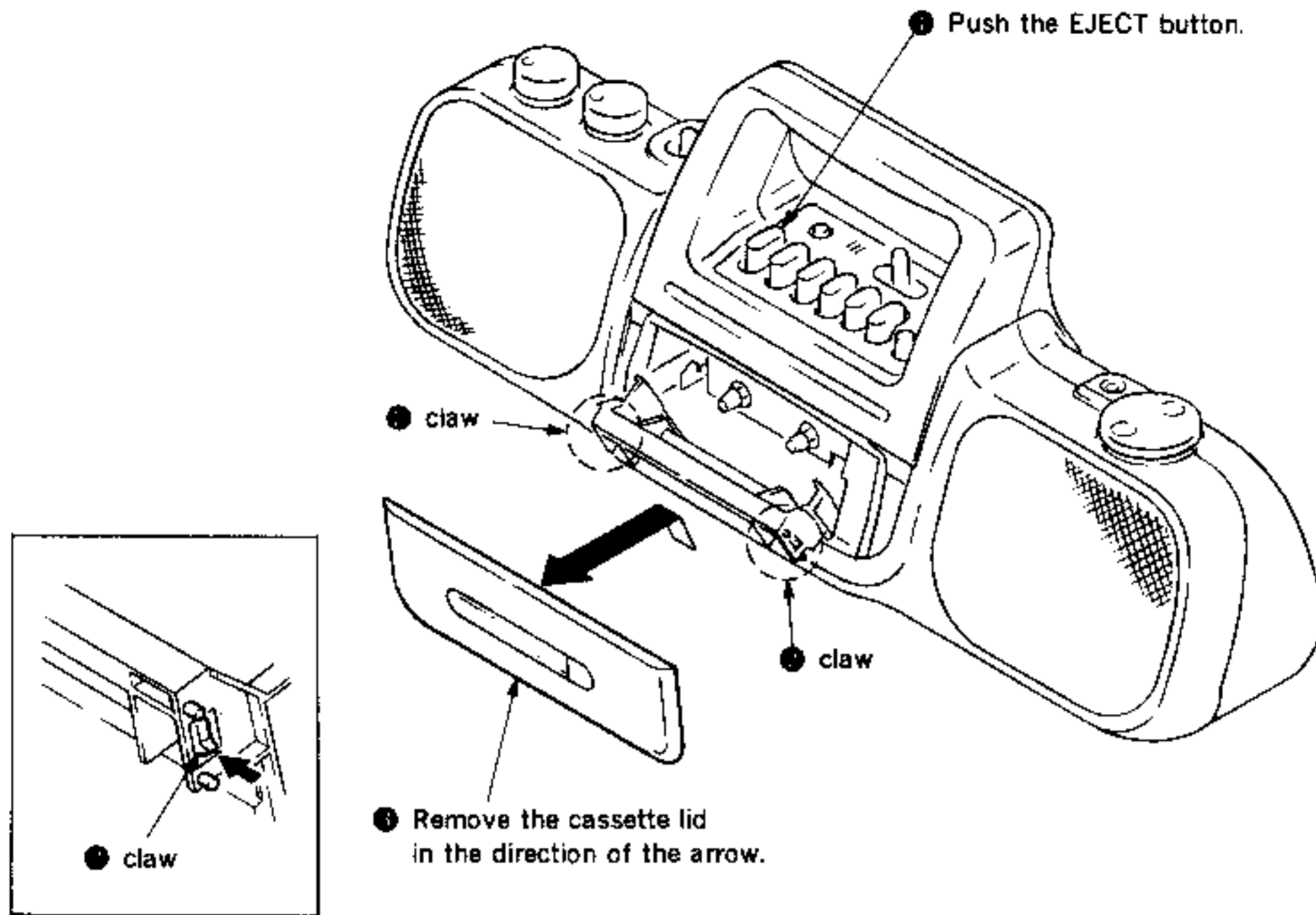
Dimensions	Approx. 470 × 150 × 154 mm (w/h/d) (18 ⁵ / ₈ × 6 × 6 ¹ / ₈ inches) incl. projecting parts and controls
Weight	Approx. 2.6 kg (5 lb 12 oz.) incl. batteries
Accessory supplied	AC power adaptor (1)

Design and specifications subject to change without notice.

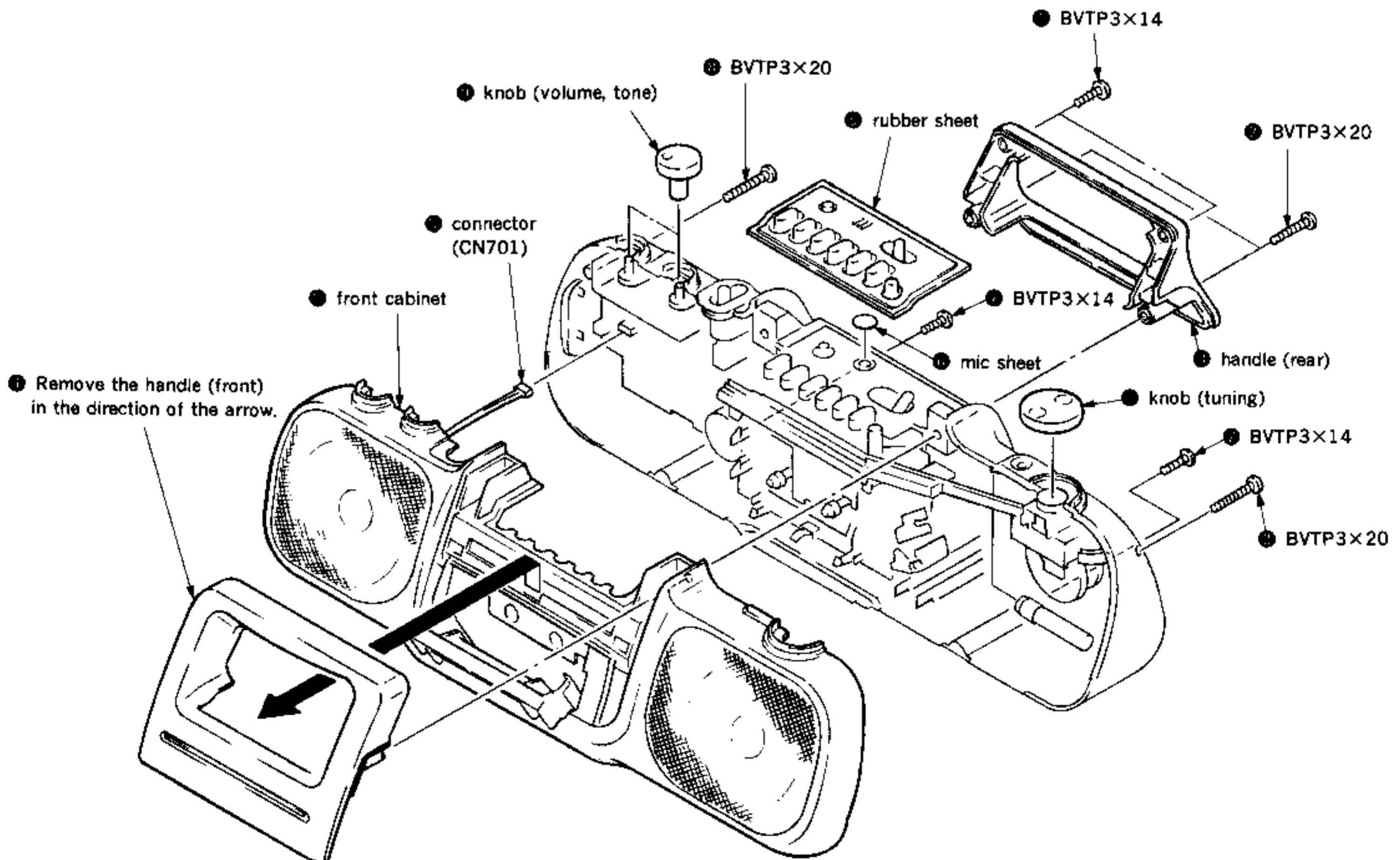
SECTION 2 DISASSEMBLY

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

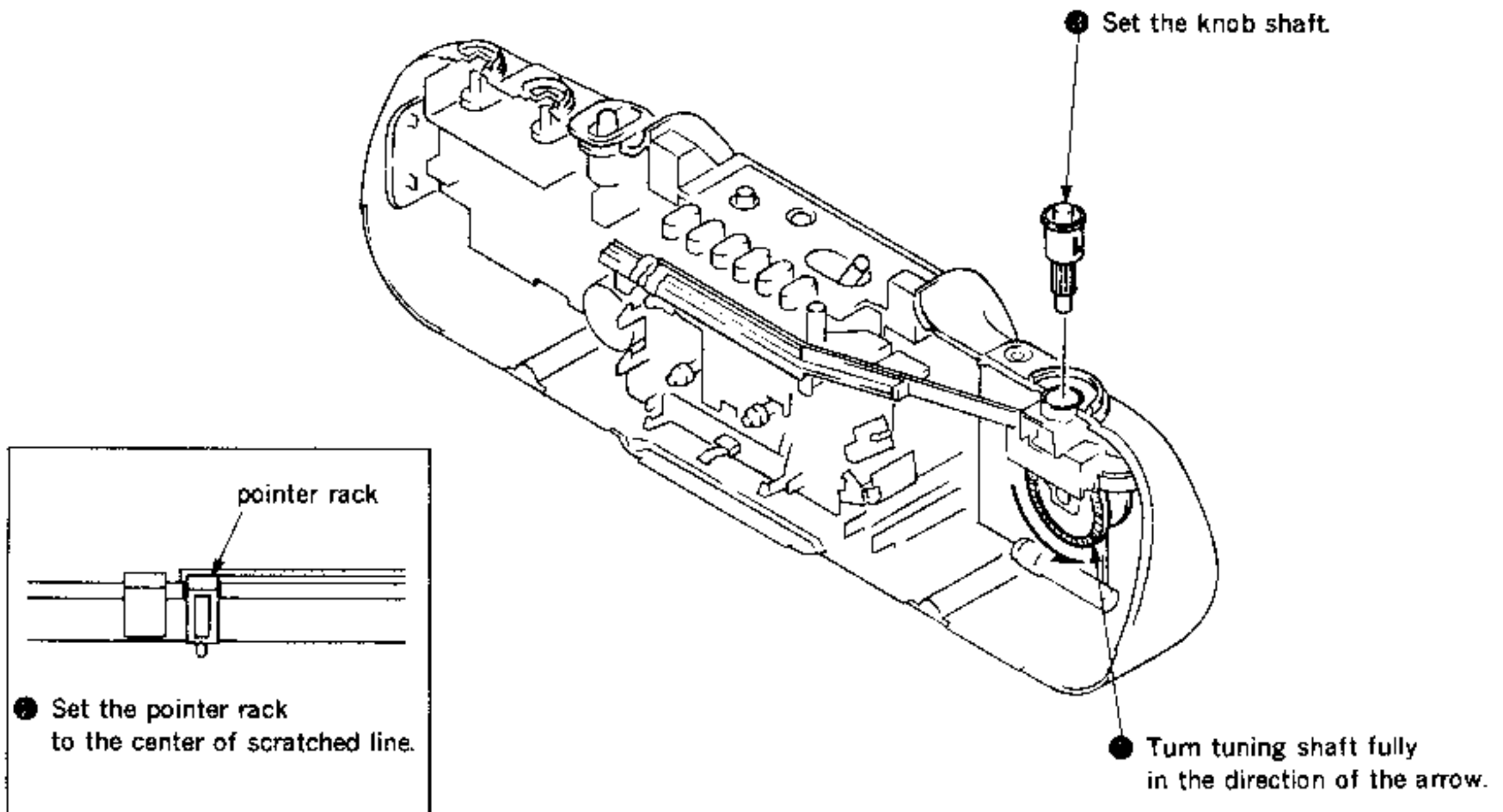
2-1. REMOVAL OF CASSETTE LID



2-2. REMOVAL OF FRONT CABINET



2-3. DIAL POINTER SETTING



SECTION 3 MECHANICAL ADJUSTMENTS

PRECAUTION

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

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers
- Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head demagnetizer close to the erase head.)
- Do not use a magnetized screwdriver for the adjustments.
- After the adjustments, apply suitable locking compound to the parts adjusted.
- The adjustments should be performed with the rated power supply voltage unless otherwise noted.
- Power supply voltage : 9V dc.

Torque Measurement

Torque	Torque Meter	Meter Reading
FWD	CQ-102C	20—60g·cm (0.28—0.83oz·inch)
FWD Back Tension	CQ-102C	1.5—6g·cm (0.021—0.083oz·inch)
REV	CQ-102RC	20—60g·cm (0.28—0.83oz·inch)
REV Back Tension	CQ-102RC	1.5—6g·cm (0.021—0.083oz·inch)
FF	CQ-201B	more than 50g·cm (more than 0.69 oz·inch)
REW	CQ-201B	more than 50g·cm (more than 0.69oz·inch)

Tape Tension Measurement

Mode	Tension meter	Meter Reading
FWD	CQ-403A	more than 70g (more than 2.47 oz)
REV	CQ-403R	

SECTION 4 ELECTRICAL ADJUSTMENTS

4-1. TAPE RECORDER SECTION

Standard Output Level

Output terminal	SP OUT	HP OUT
load impedance	3.2Ω	32Ω
output signal level	0.775V (0dB)	0.25V (-10dB)

Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	tape speed adjustment

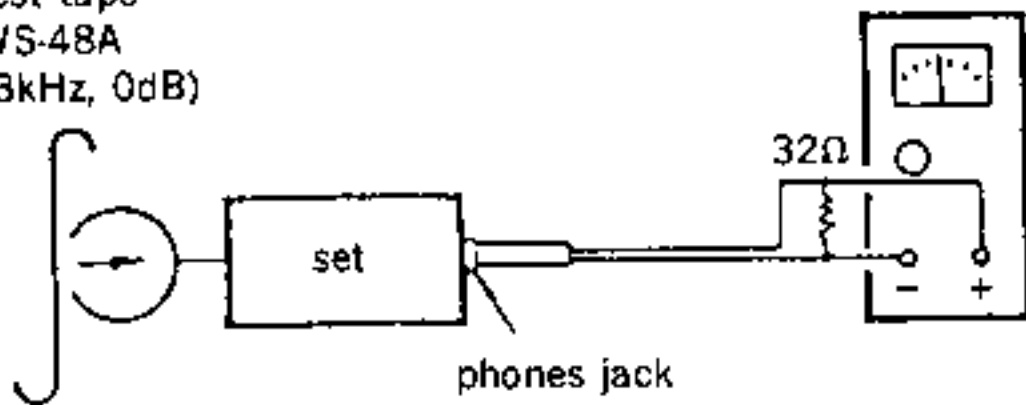
Tape Speed Adjustment

Procedure :

Mode : playback

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

speed checker
LFM-30
or
digital frequency
counter



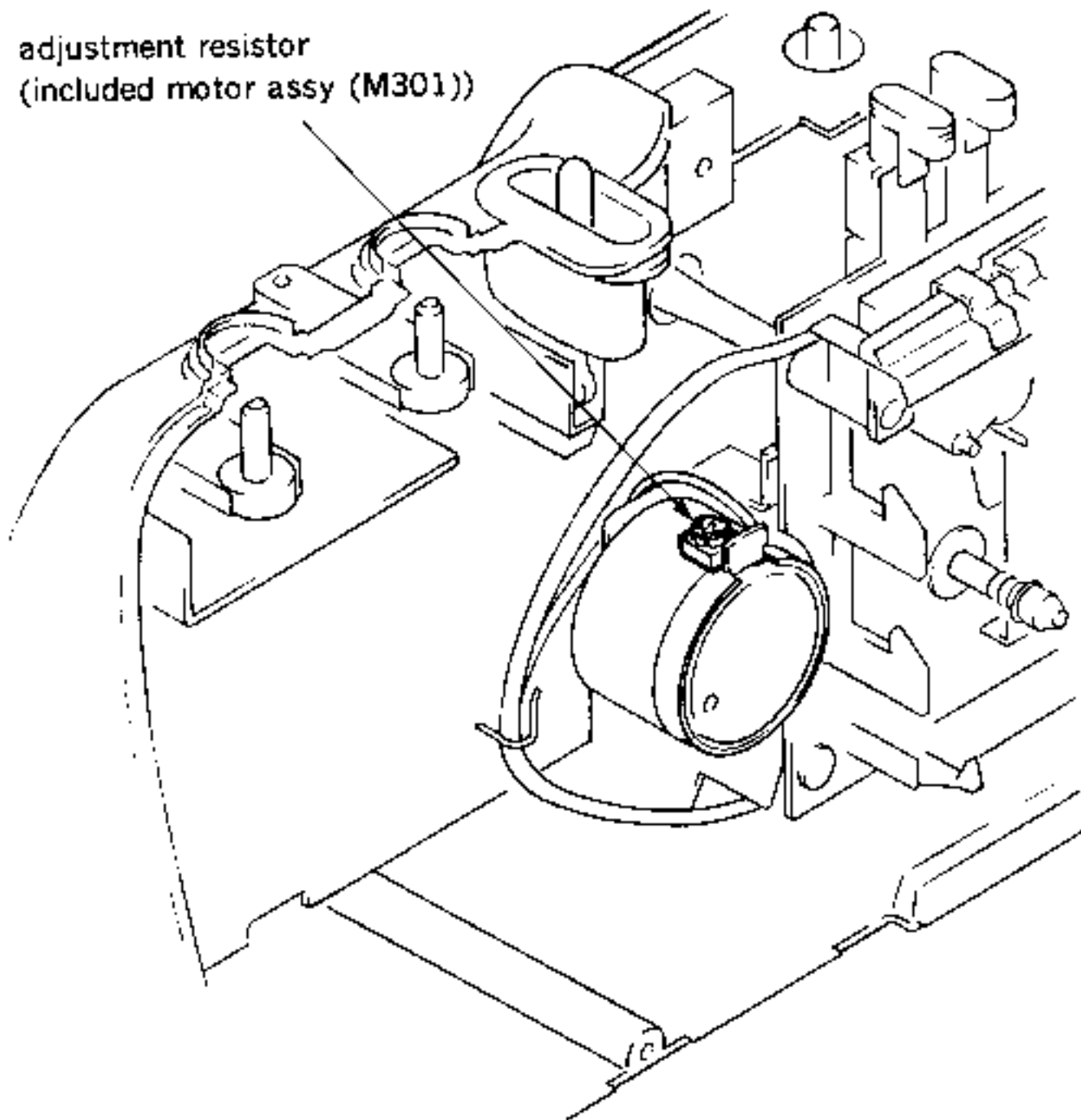
Adjustment Value :

Speed checker	Digital frequency counter
-3% to +3%	2,910 to 3,090Hz

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

Adjustment Location :

adjustment resistor
(included motor assy (M301))

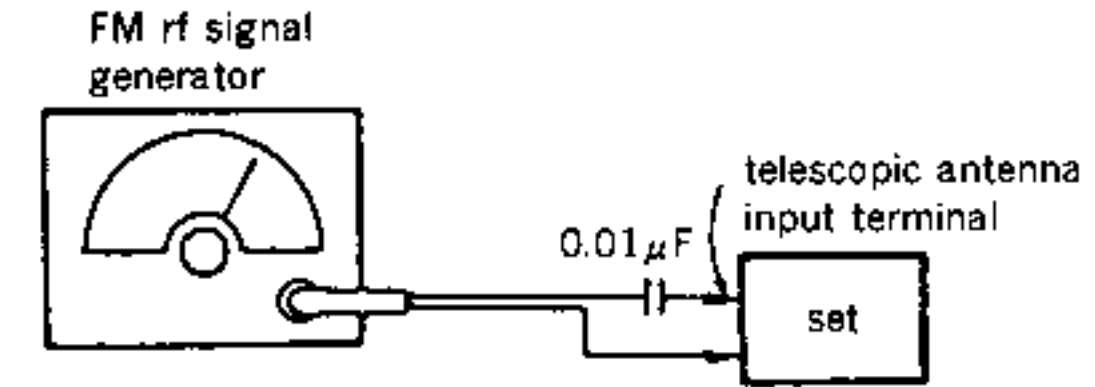


4-2. TUNER SECTION

• FM Section

Setting :

FUNCTION switch : FM

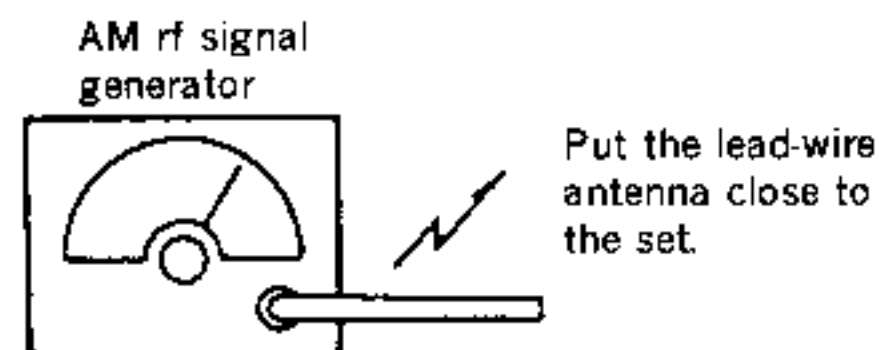


22.5kHz frequency
deviation by 400Hz signal
output level : as low as possible

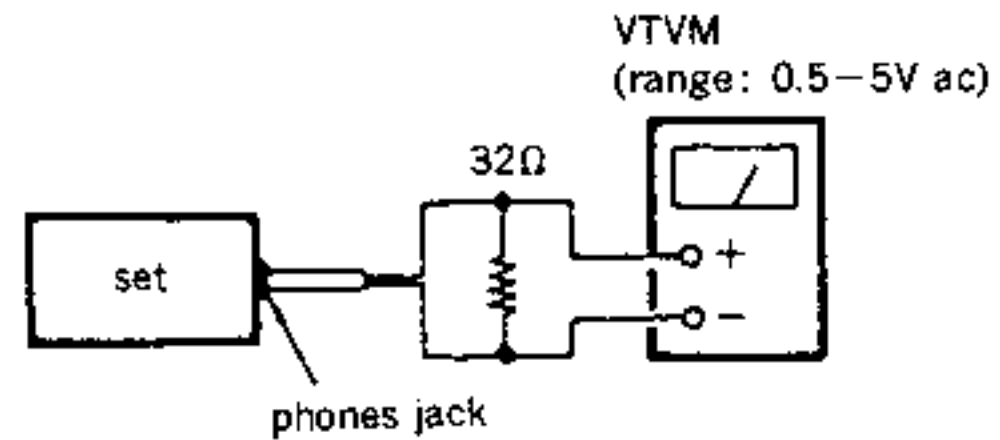
• AM Section

Setting :

FUNCTION switch : AM



30% amplitude
modulation by
400Hz signal
output level : as low as possible



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.
- Remove telescopic antenna in FM section adjustments.

FM FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on VTVM.

L2	CT2
86.5MHz	109.5MHz

FM TRACKING ADJUSTMENT

Adjust for a maximum reading on VTVM.

L1	CT1
86.5MHz	109.5MHz

AM FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on VTVM.

L4	CT4
520kHz	1,780kHz

AM TRACKING ADJUSTMENT

Adjust for a maximum reading on VTVM.

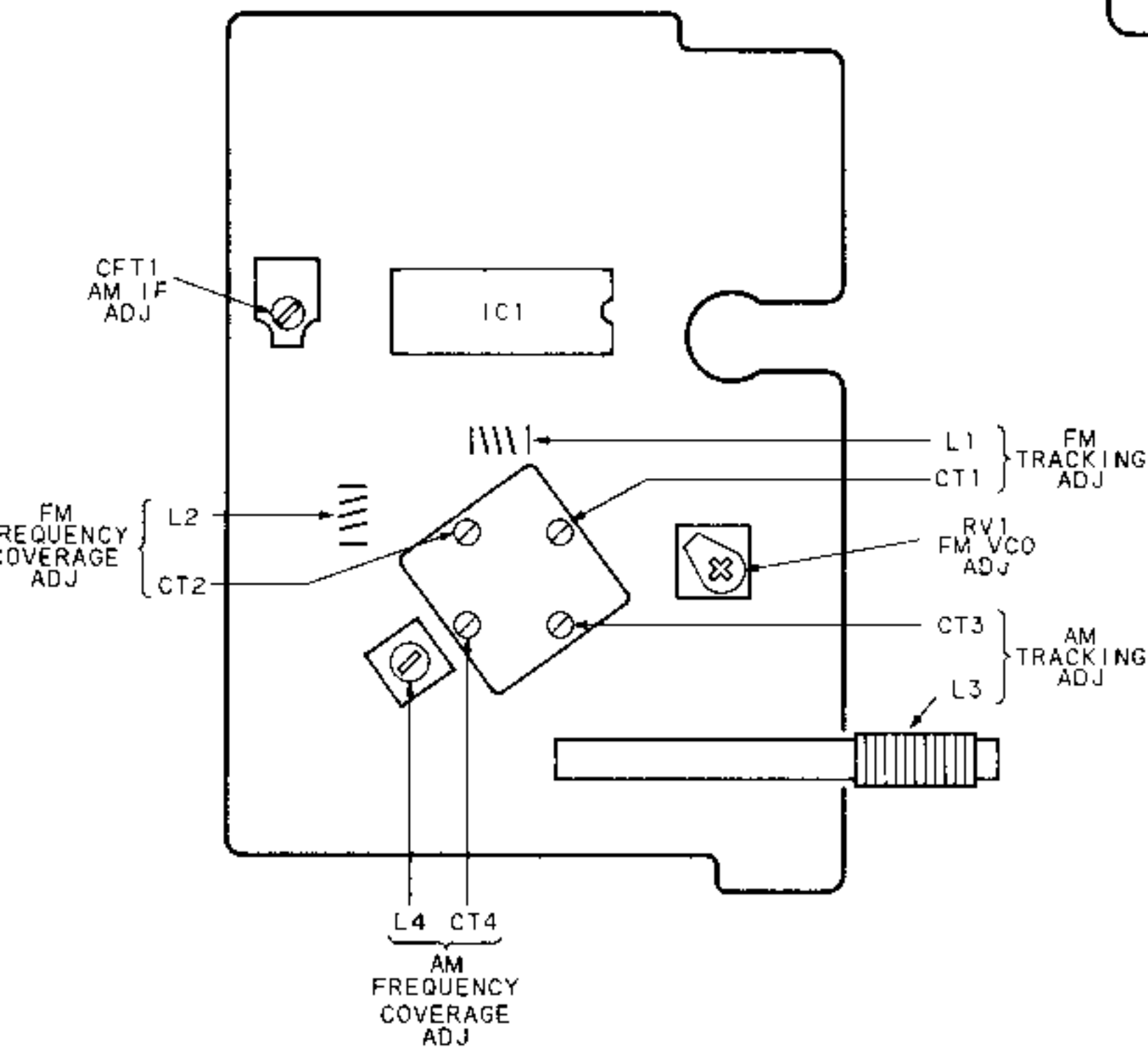
L3	CT3
620kHz	1,400kHz

AM IF ADJUSTMENT

Adjust for a maximum reading on VTVM.

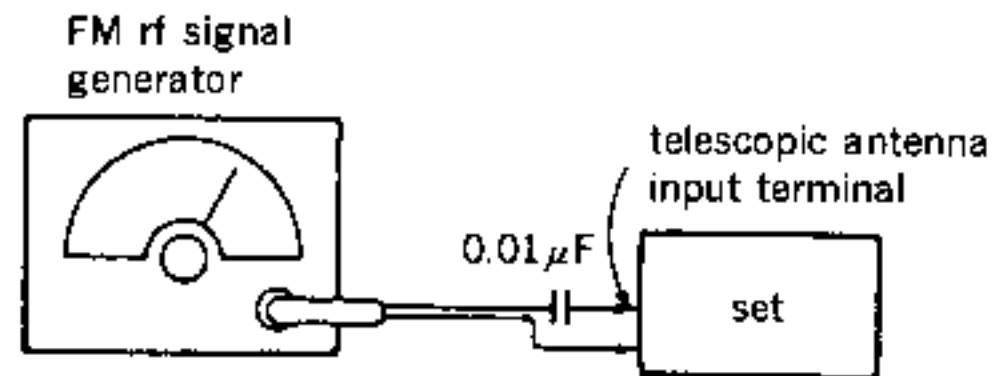
CFT1
455kHz

Adjustment Location : TU board



FM VCO Adjustment

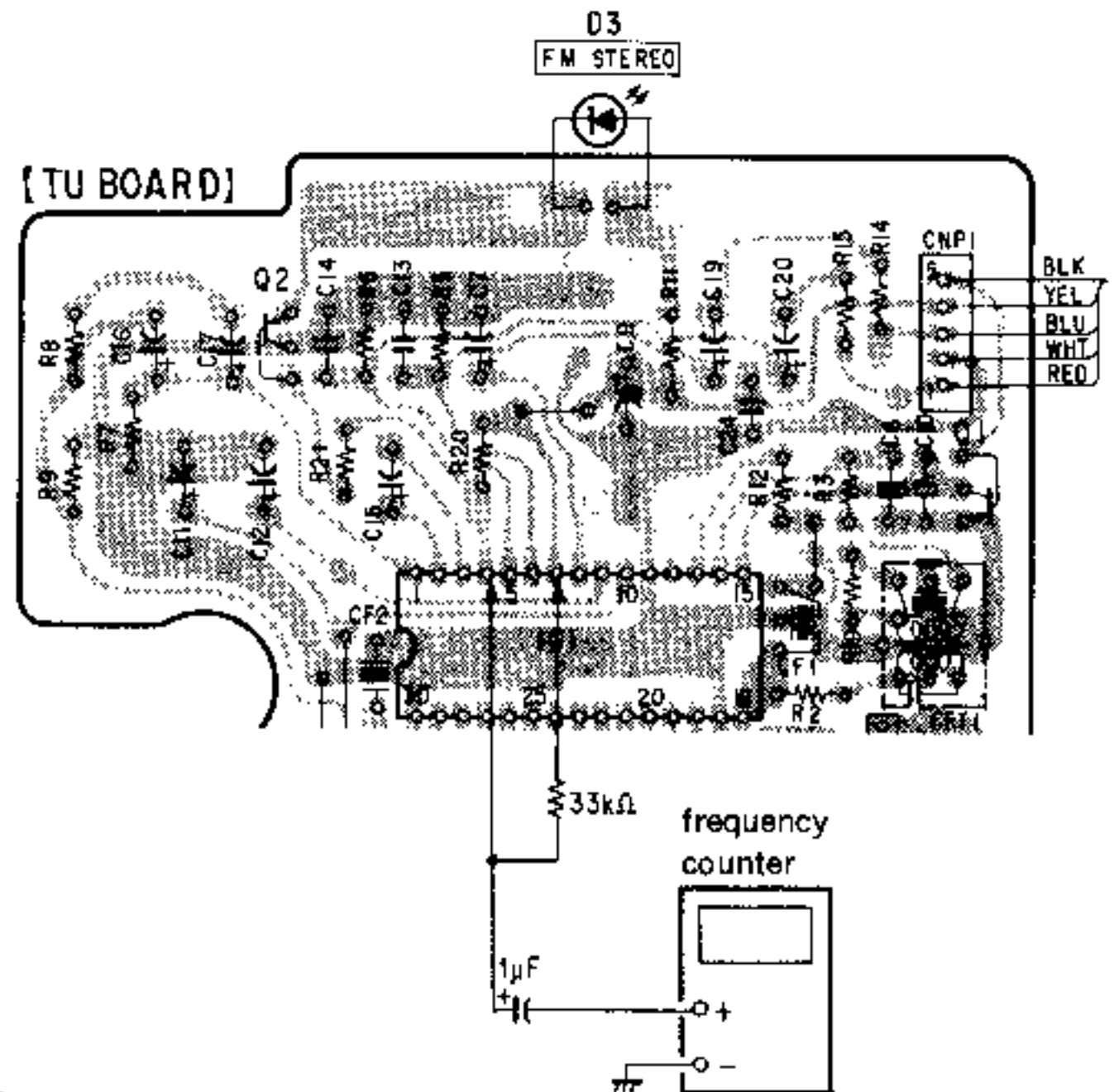
Procedure :

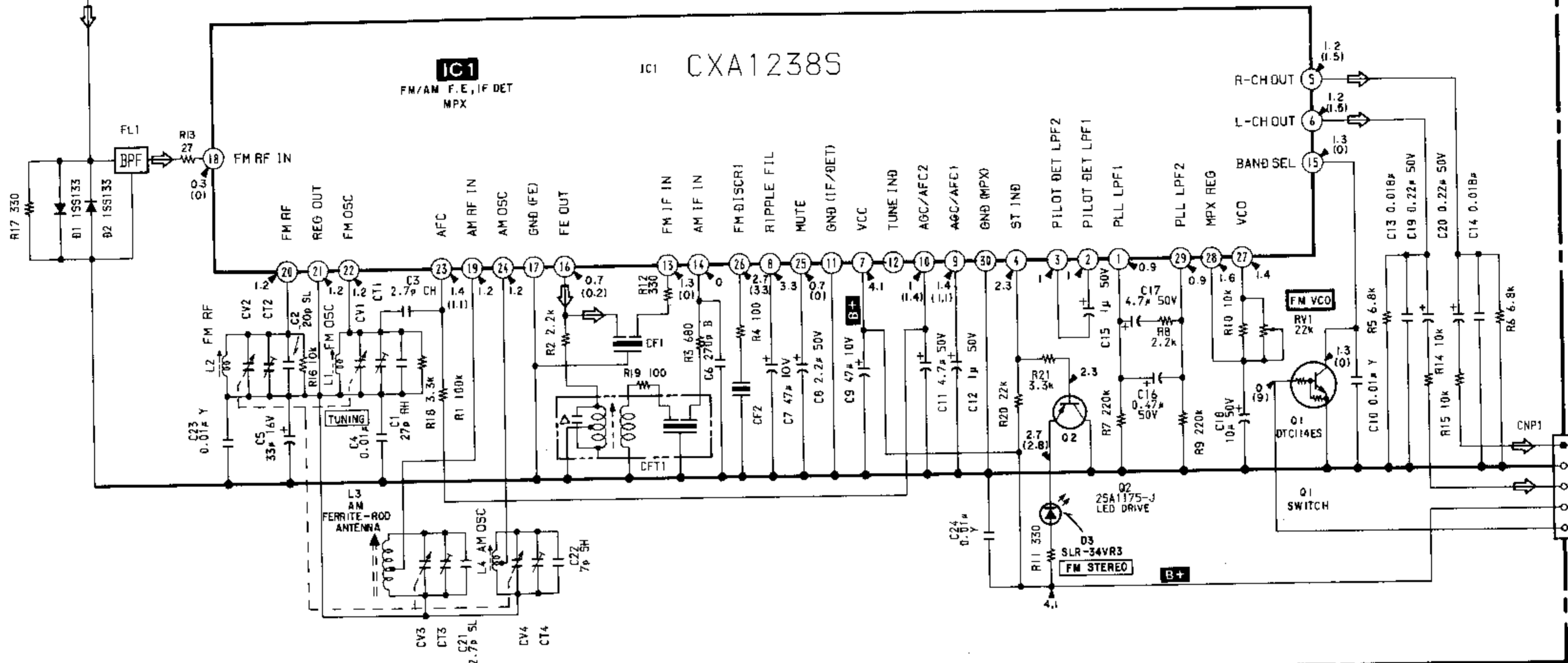


Carrier frequency : 98MHz
 Modulation : no modulation
 Output level : 0.1V (100dB)

1. Connect frequency counter as shown below.
2. Tune the set to 98MHz.
3. Adjust RV1 for 76kHz ± 500Hz reading on the frequency counter.

Adjustment Location : TU board

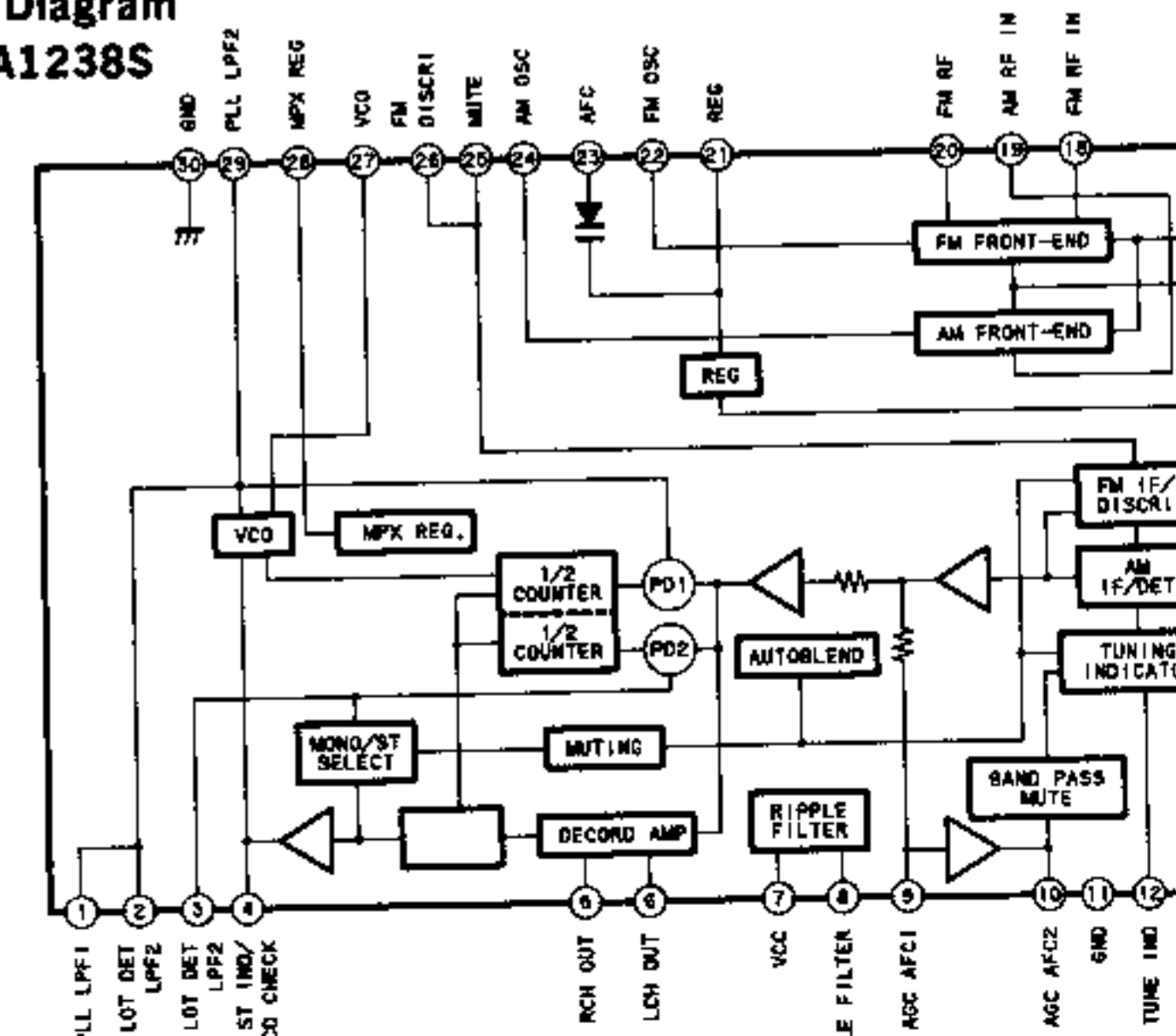




Note:

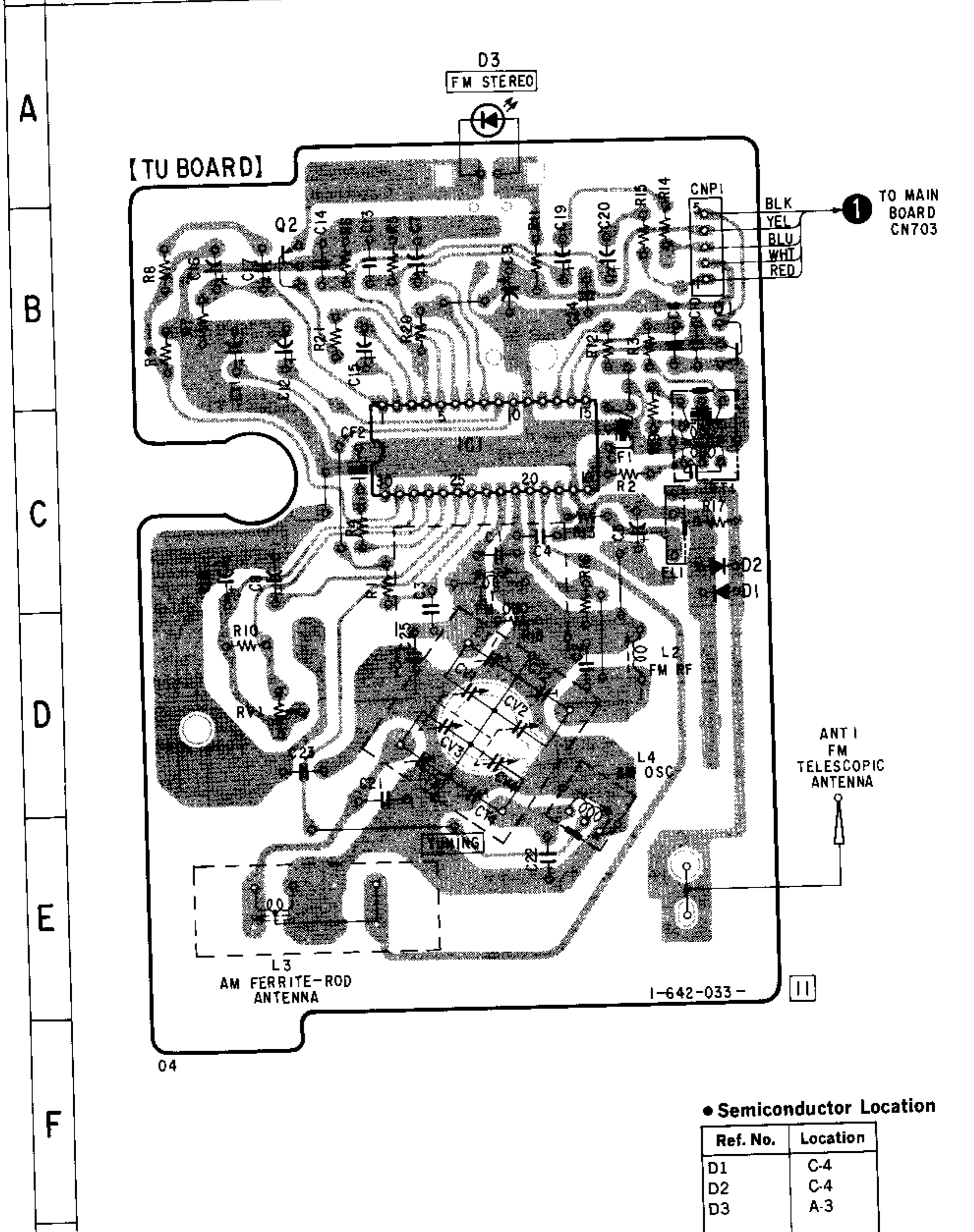
- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- \triangle : internal component.
- **B+**: B+ Line
- **□**: adjustment for repair.
- Power voltage is dc 9V and fed with regulated dc power supply from external power voltage jack.
- Voltage is dc with respect to ground under no-signal (detuned) conditions.
no mark: FM
(): AM
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path

• IC Block Diagram
IC1 CXA1238S



5-1. PRINTED WIRING BOARD—TUNER SECTION— • Refer to page 15 for Semiconductor Lead Layouts.

1 2 3 4 5



Note:
 ● ○ — : parts extracted from the component side.
 ● [] — indicates side identified with part number.

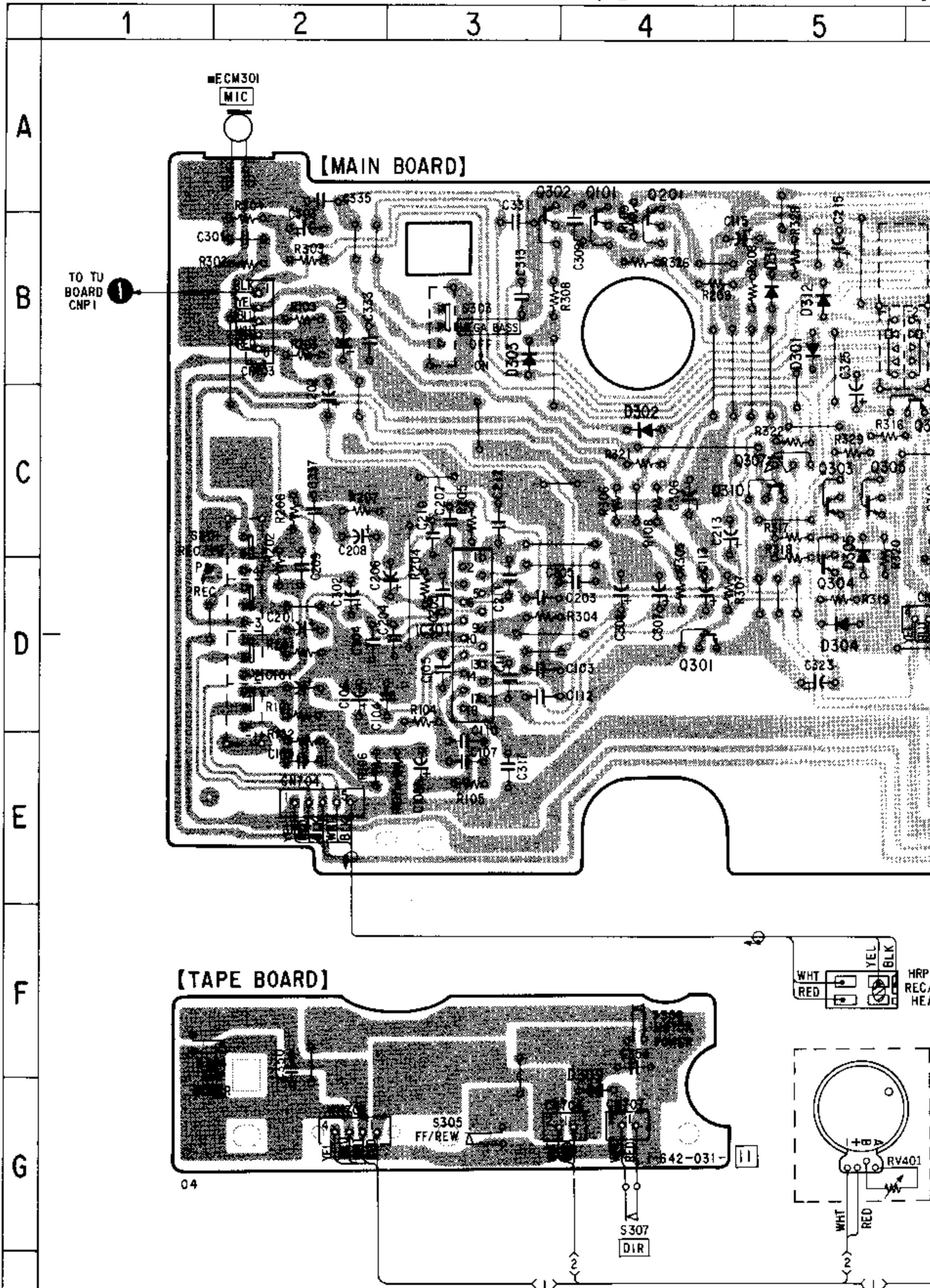
• Semiconductor Location

Ref. No.	Location
D1	C-4
D2	C-4
D3	A-3
IC1	C-3
Q1	B-4
Q2	B-2

• Semiconductor Location

Ref. No.	Location
D301	B-5
D302	C-4
D303	B-3
D304	D-5
D305	C-5
D306	B-7
D307	D-9
D308	B-7
D309	G-4
D310	A-8
D311	B-5
D312	B-5
IC301	D-3
IC302	C-6
IC303	B-8
Q101	B-4
Q201	B-4
Q301	D-4
Q302	B-3
Q303	C-5
Q304	C-5
Q305	C-5
Q306	C-6
Q307	C-5
Q308	E-8
Q309	B-6
Q310	C-5

5-3. PRINTED WIRING BOARDS—AUDIO SECTION— • Refer to page 15 for Semiconductor Lead Lay



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

Conductor Lead Layouts.

5

6

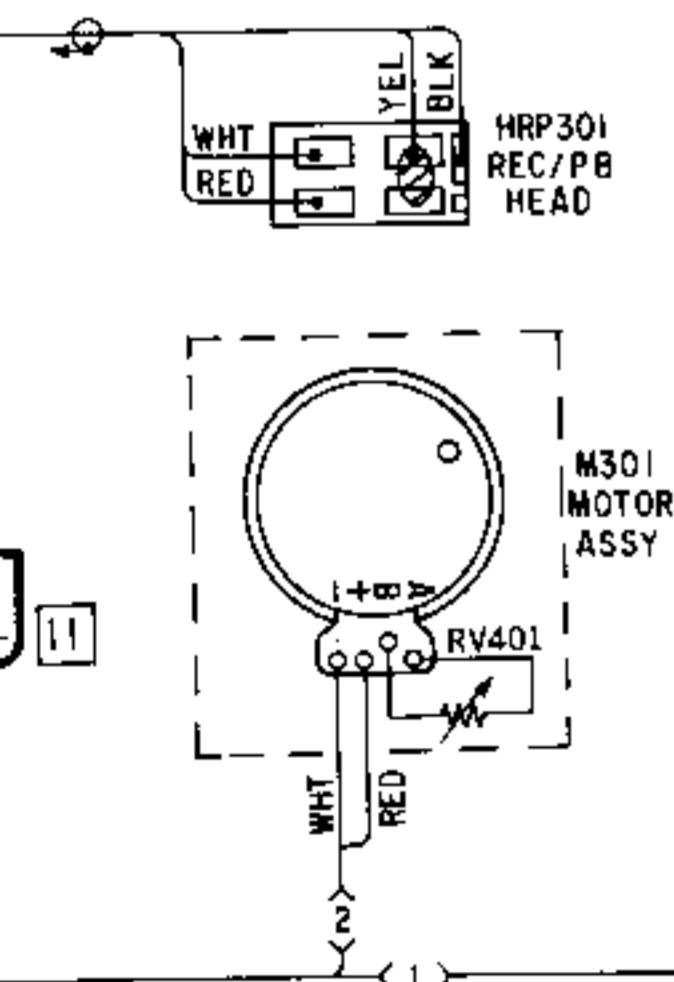
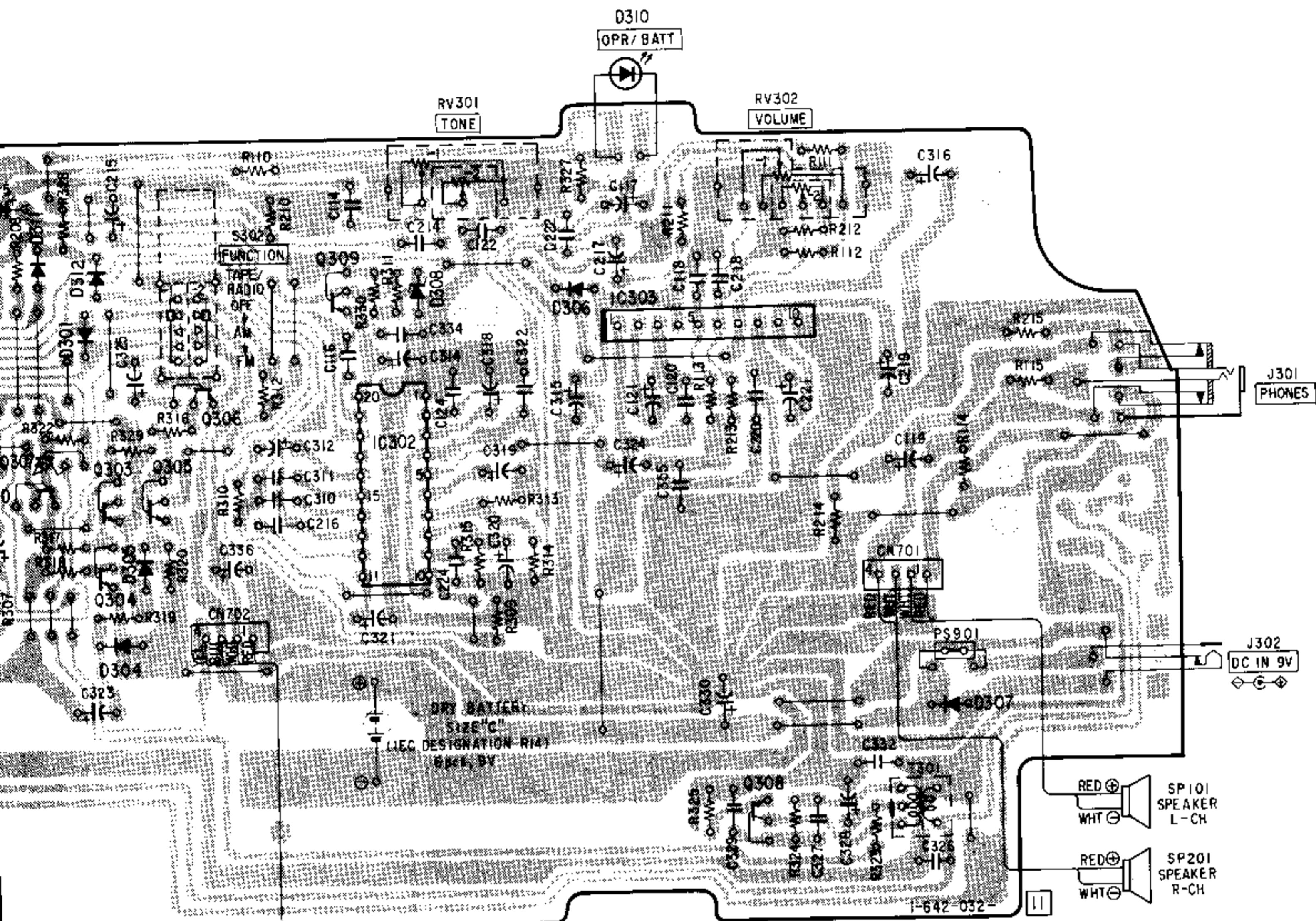
7

8

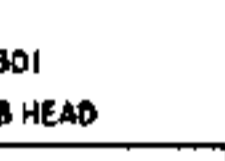
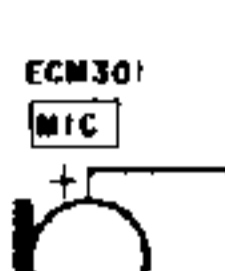
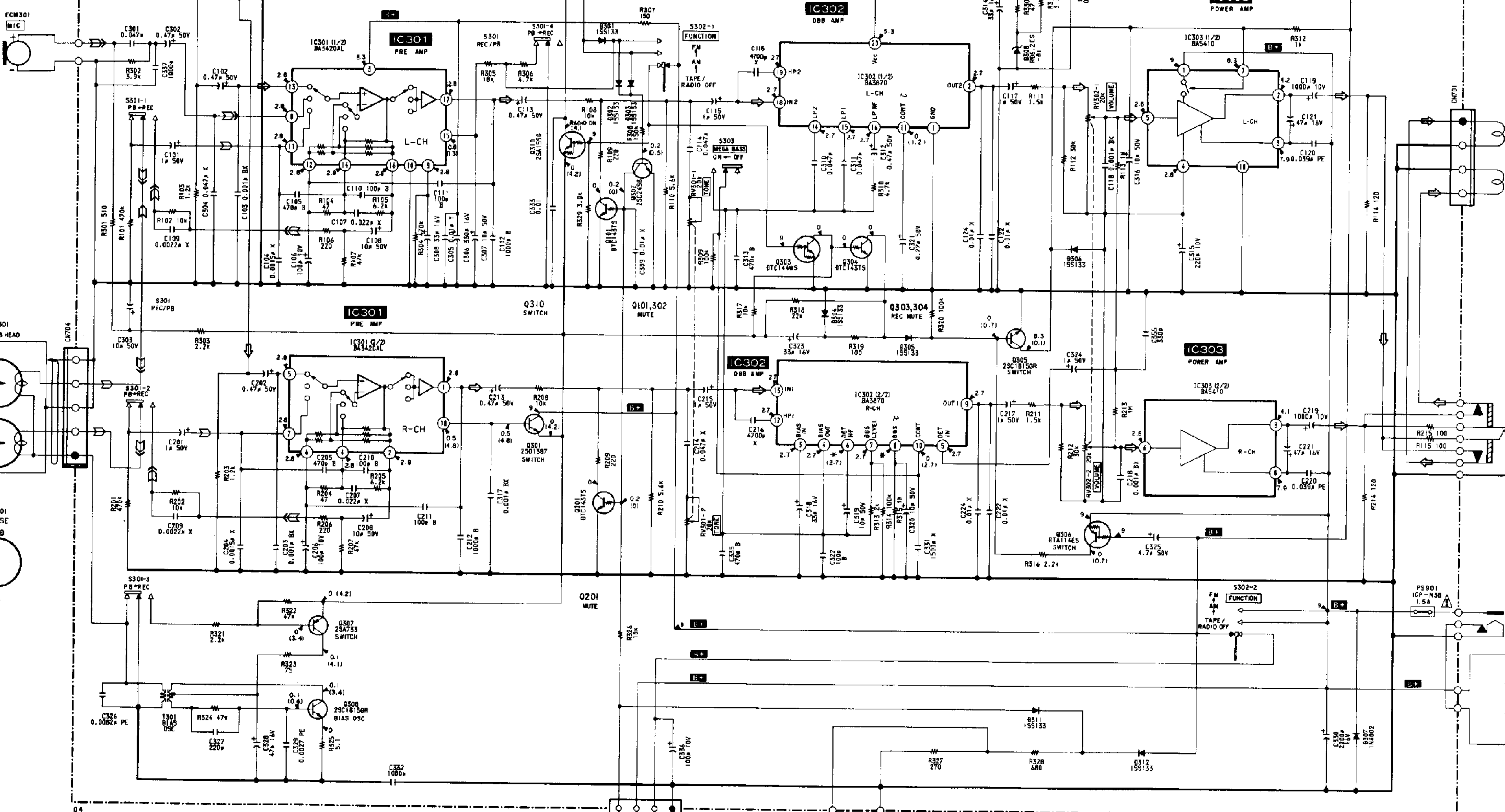
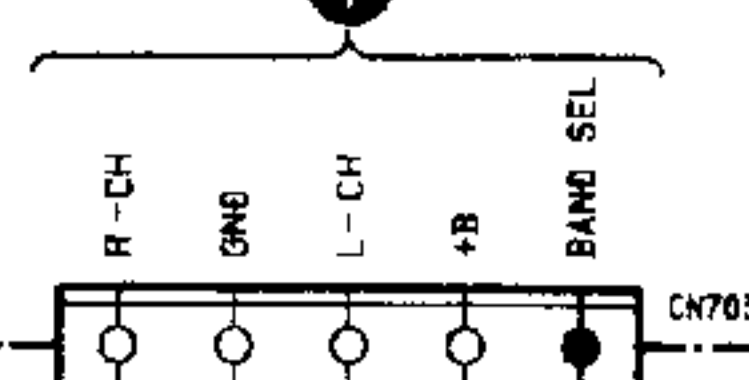
9

10

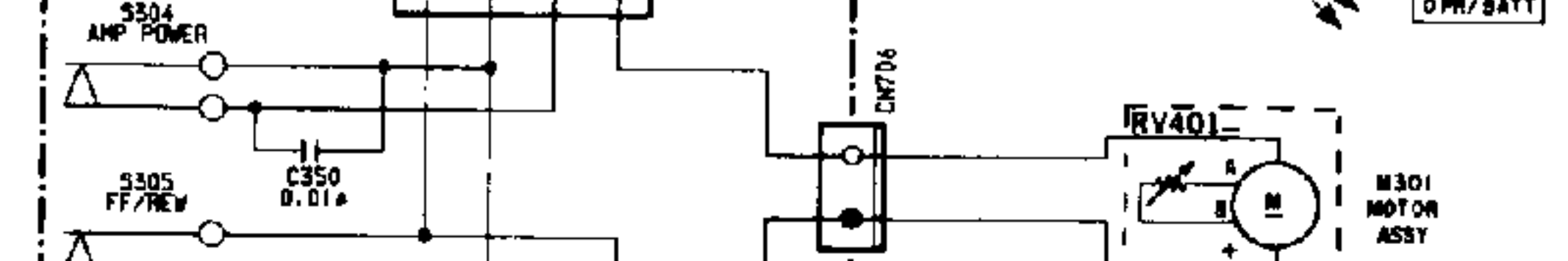
11



[MAIN BOARD]



[TAPE BOARD]



3
H

8
50R
OSC

3—

C332
1000 μ

R326
10k

C336
100 μ 10V

D311
155133

R327
270

R328
500

CN702

[TAPE BOARD]

S304
AMP POWER

S305
FF/REW

S306
MOTOR POWER

C350
0.01 μ

C354
0.01

D309
1N4002

CN707

W705

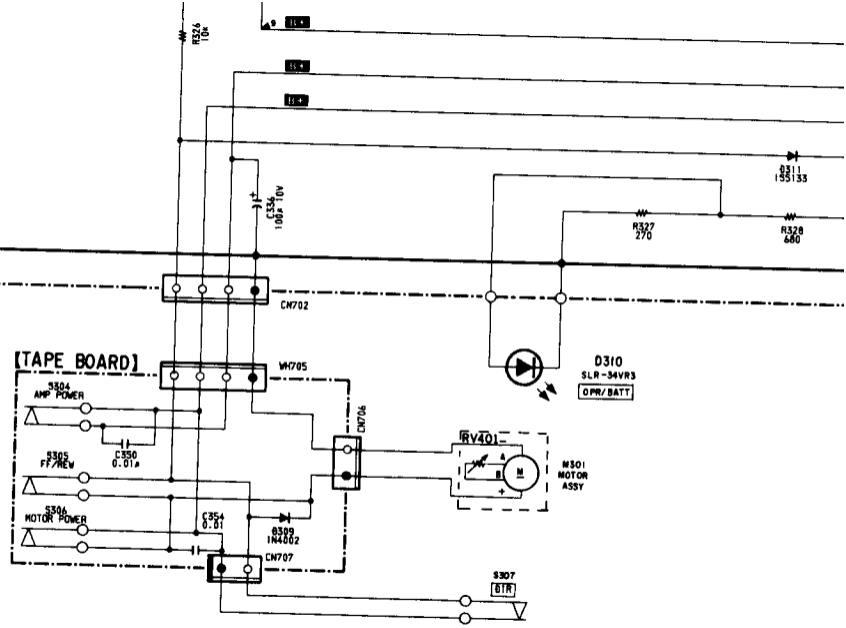
CN706

RV401

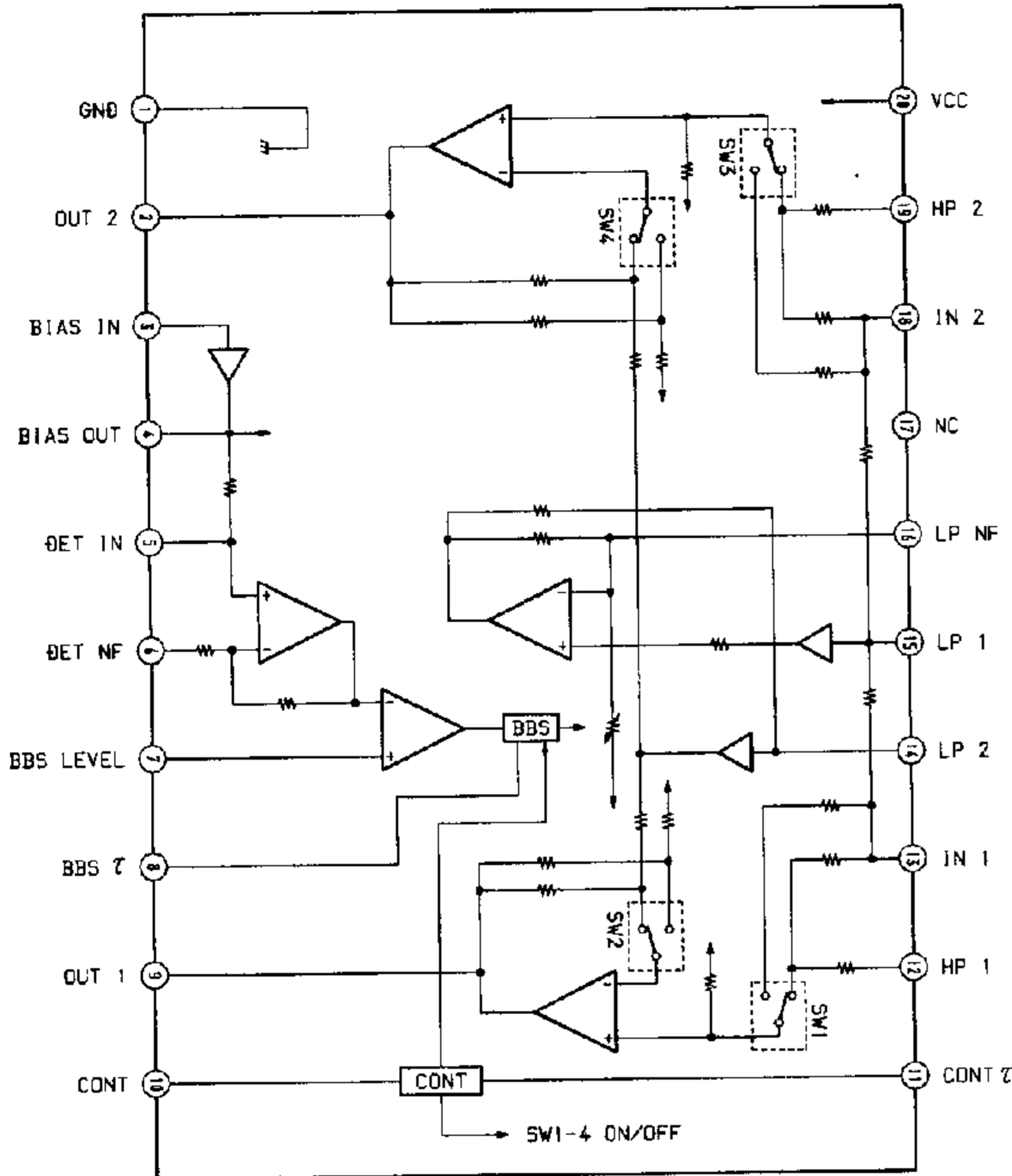
M301
MOTOR
ASSY

D310
SLR-34VR3
OPR/BATT

S307
BTR



● IC Block Diagram
IC302 BA3870



Note:

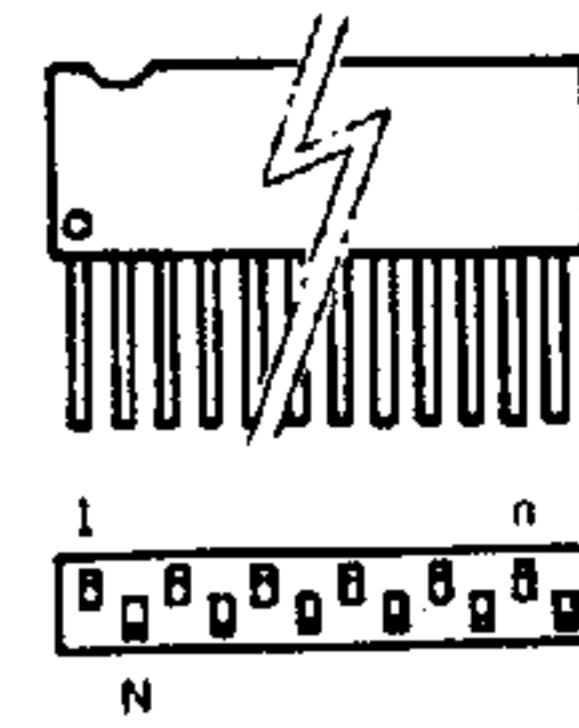
- All capacitors are in μF unless otherwise noted. pF: $\mu\mu\text{F}$
50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.

<p>Note: The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.</p>	<p>Note: Les composants identifiés par une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
--	---

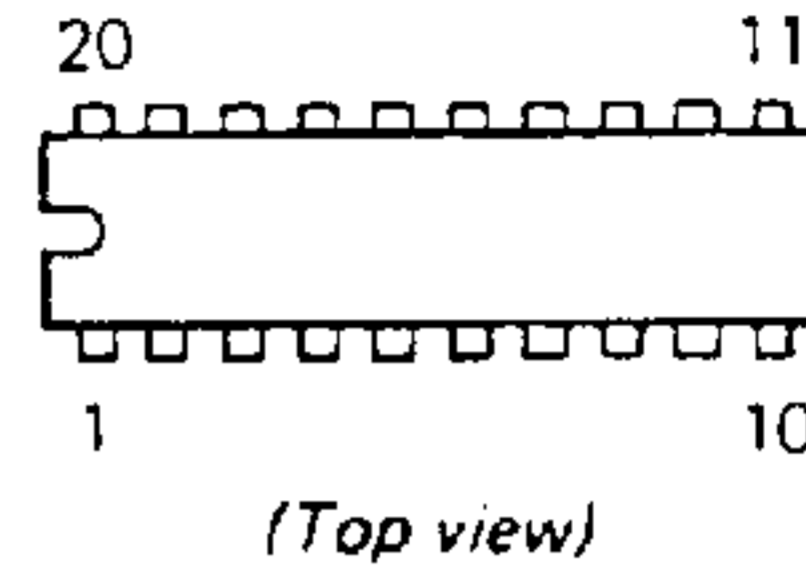
- **B+** : B+ Line
- Power voltage is dc 9V and fed with regulated dc power supply from external power voltage jack.
- Voltage is dc with respect to ground under no-signal conditions.
no mark : PB
() : REC
< > : MEGA BASS ON
* : Impossible measure point
- Voltages are taken with a VOM (Input Impedance $10\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Signal path.
 : FM
 : PB
 : REC

5-5. SEMICONDUCTOR LEAD LAYOUTS

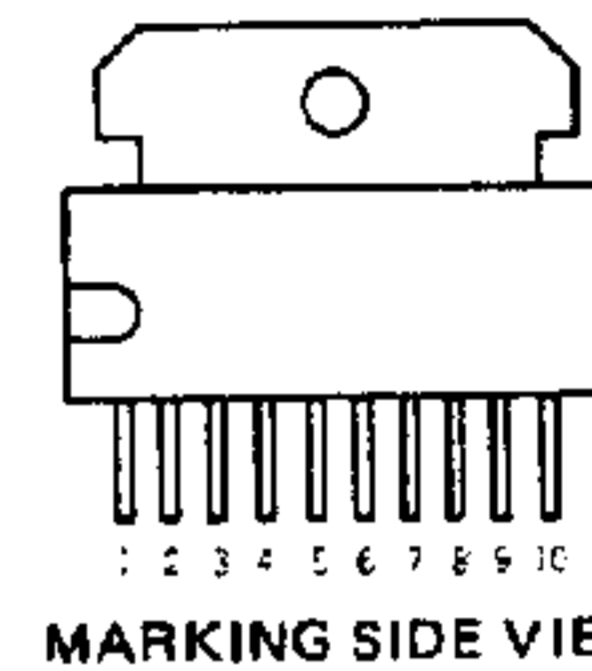
BA3420AL



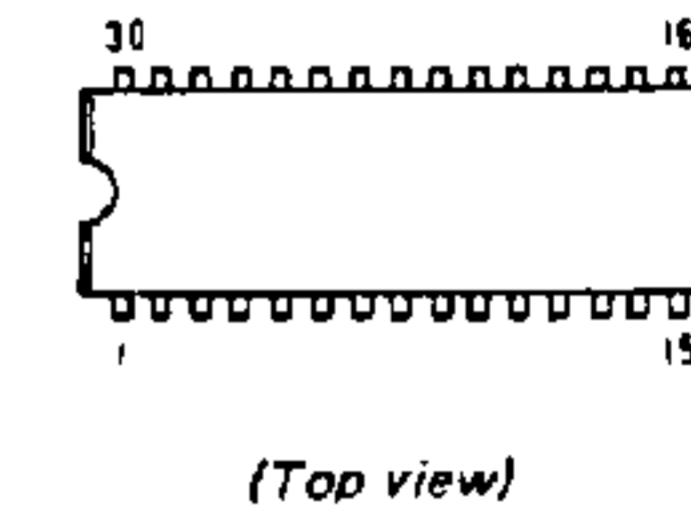
BA3870



BA5410



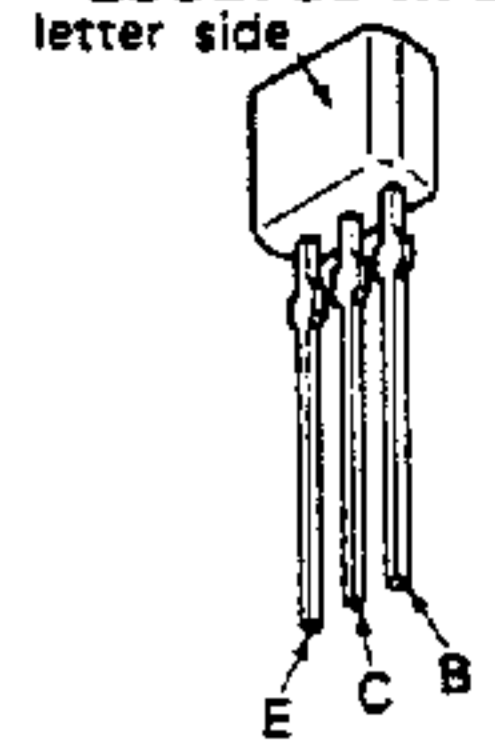
CXA1238S



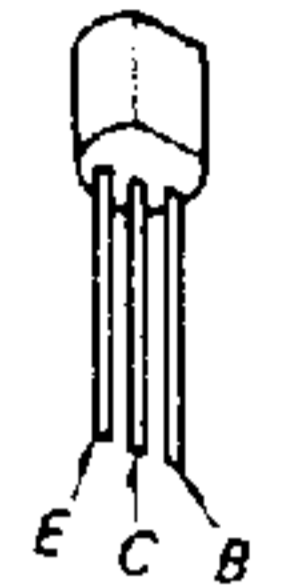
DTA114ES
DTA114TS
DTC114ES
DTC143TS



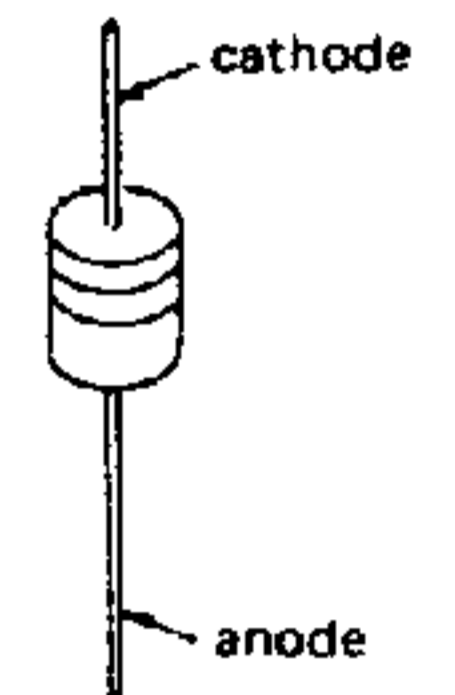
DTC144WS
2SC2785-HFE
letter side



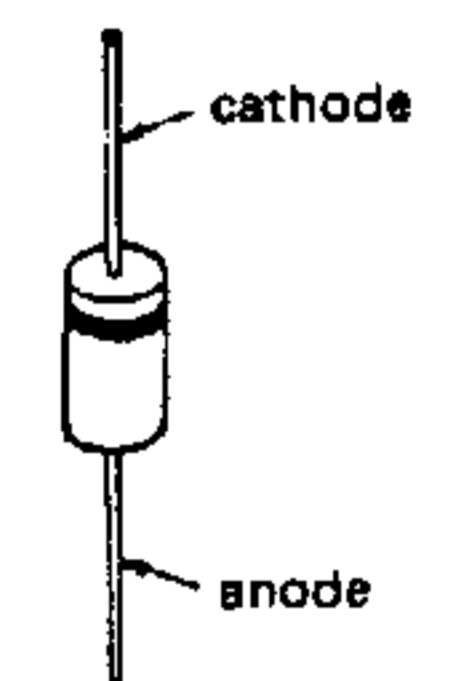
2SA733-K
2SC1815-GR
2SD1387



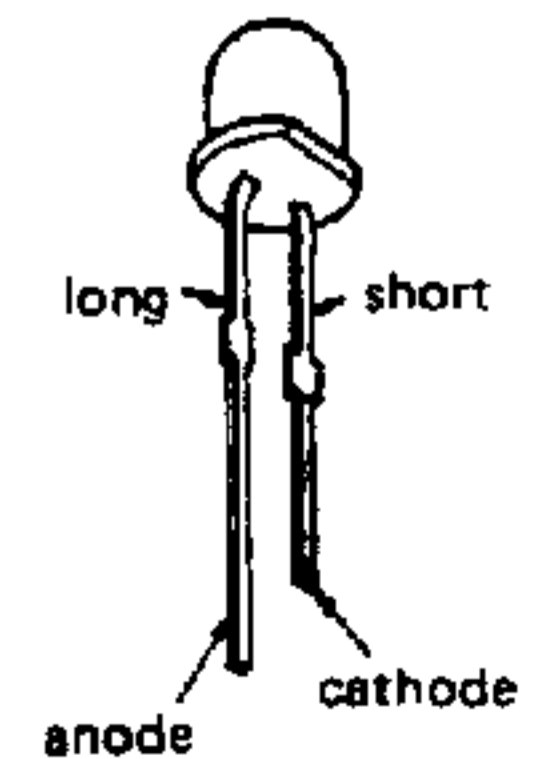
RD6.2ES-B1
1SS119



10E2



MVR3338S



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.

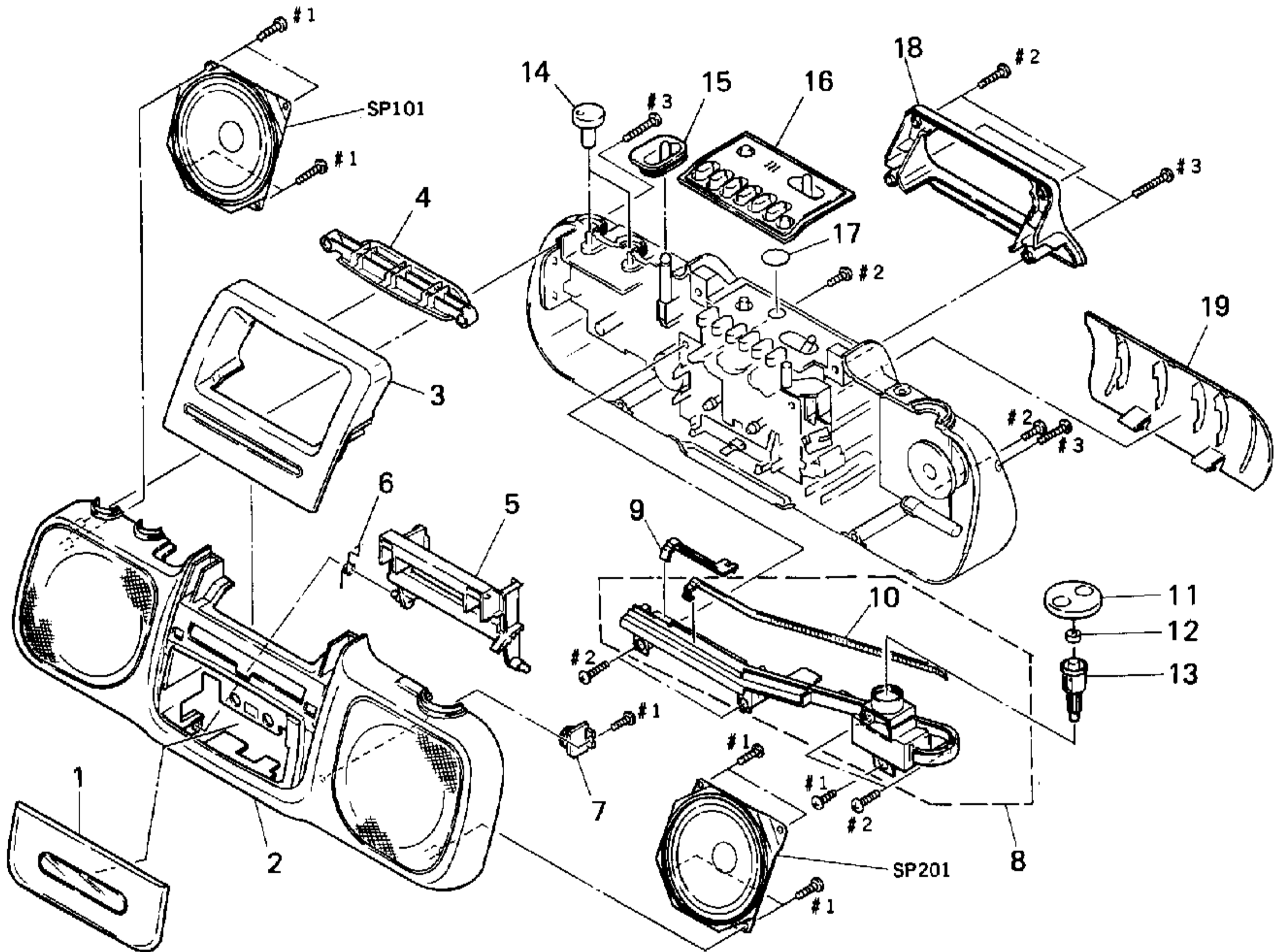
- -XX, -X mean standardized parts, so they may have some differences from the original one.

- Hardware (# mark) list is given in the last of this parts list.

- Color Indication of Appearance Parts
Example:
KNOB, BALANCE (WHITE)...(RED)

↑ ↑
 Parts Color Cabinet's Color

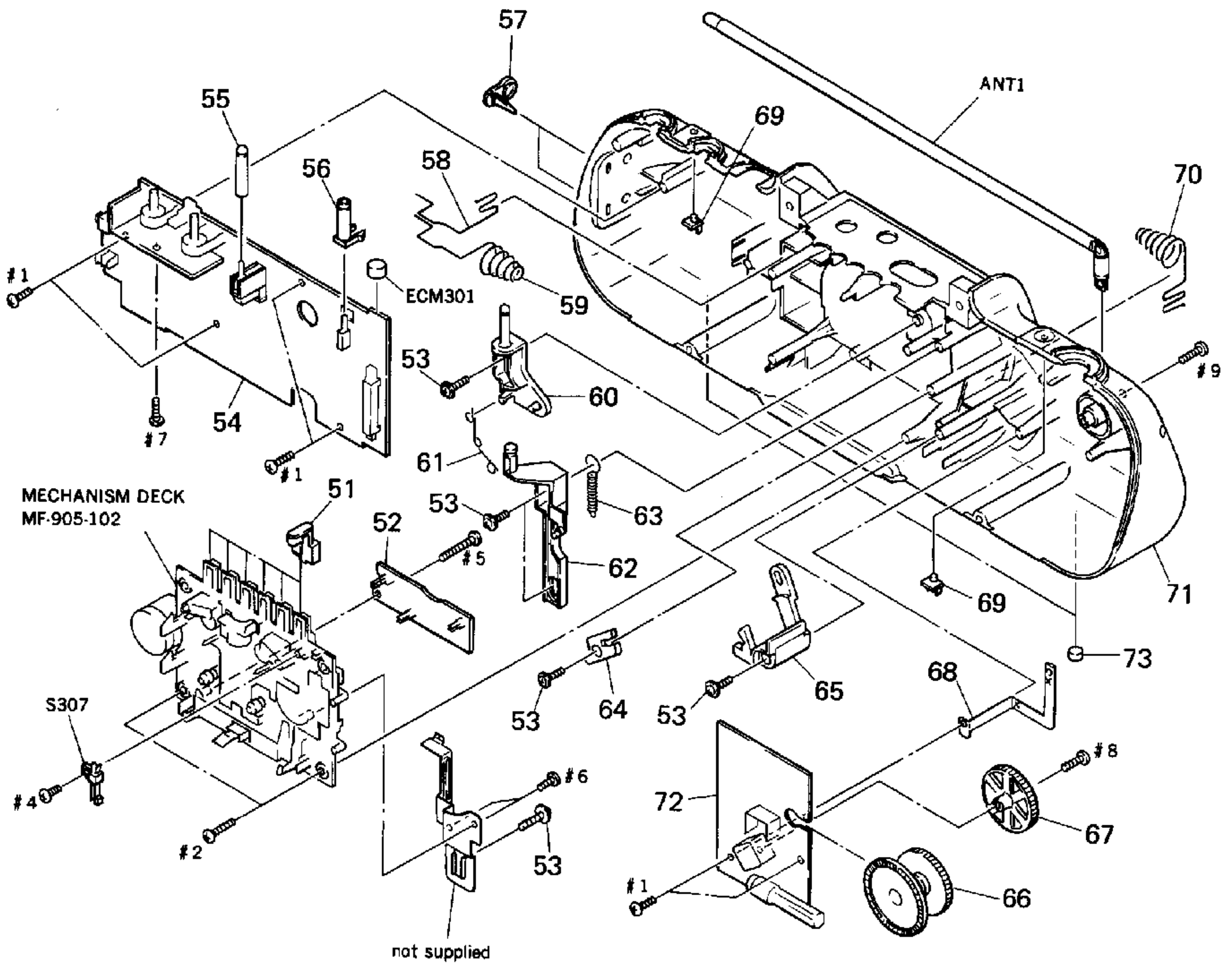
6-1. FRONT CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	3-374-550-01	LID, CASSETTE	
2	X-3363-949-1	CABINET (FRONT) SUB ASSY (YELLOW)	
2	X-3363-950-1	CABINET (FRONT) SUB ASSY (WHITE)	
3	X-3363-948-1	HANDLE (FRONT) SUB ASSY	
4	3-374-536-01	GRIP, HANDLE	
5	3-374-549-01	HOLDER (CASSETTE)	
6	3-374-522-01	SPRING (CASSETTE)	
7	3-351-377-01	DAMPER	
* 8	X-3364-937-1	CHASSIS (TUNING) ASSY	
* 9	3-374-520-01	PLATE (DIR), INDICATION	
* 10	3-374-545-01	RACK, POINTER	
11	3-374-544-01	KNOB (TUNING) (YELLOW)	

Ref. No.	Part No.	Description	Remark
11	3-374-544-11	KNOB (TUNING) (WHITE)	
12	3-374-534-01	SPRING, KNOB	
13	3-374-546-01	SHAFT, KNOB	
14	3-374-525-01	KNOB (VOLUME, TONE) (YELLOW)	
14	3-374-525-11	KNOB (VOLUME, TONE) (WHITE)	
15	X-3365-132-1	RUBBER (FU BUTTON) ASSY	
16	X-3365-010-1	RUBBER (MD BUTTON) ASSY	
17	3-378-500-01	SHEET, MIC	
18	3-374-548-01	HANDLE (REAR)	
19	3-374-553-01	LID, BATTERY CASE	
SP101	1-503-631-11	SPEAKER	
SP201	1-503-631-11	SPEAKER	

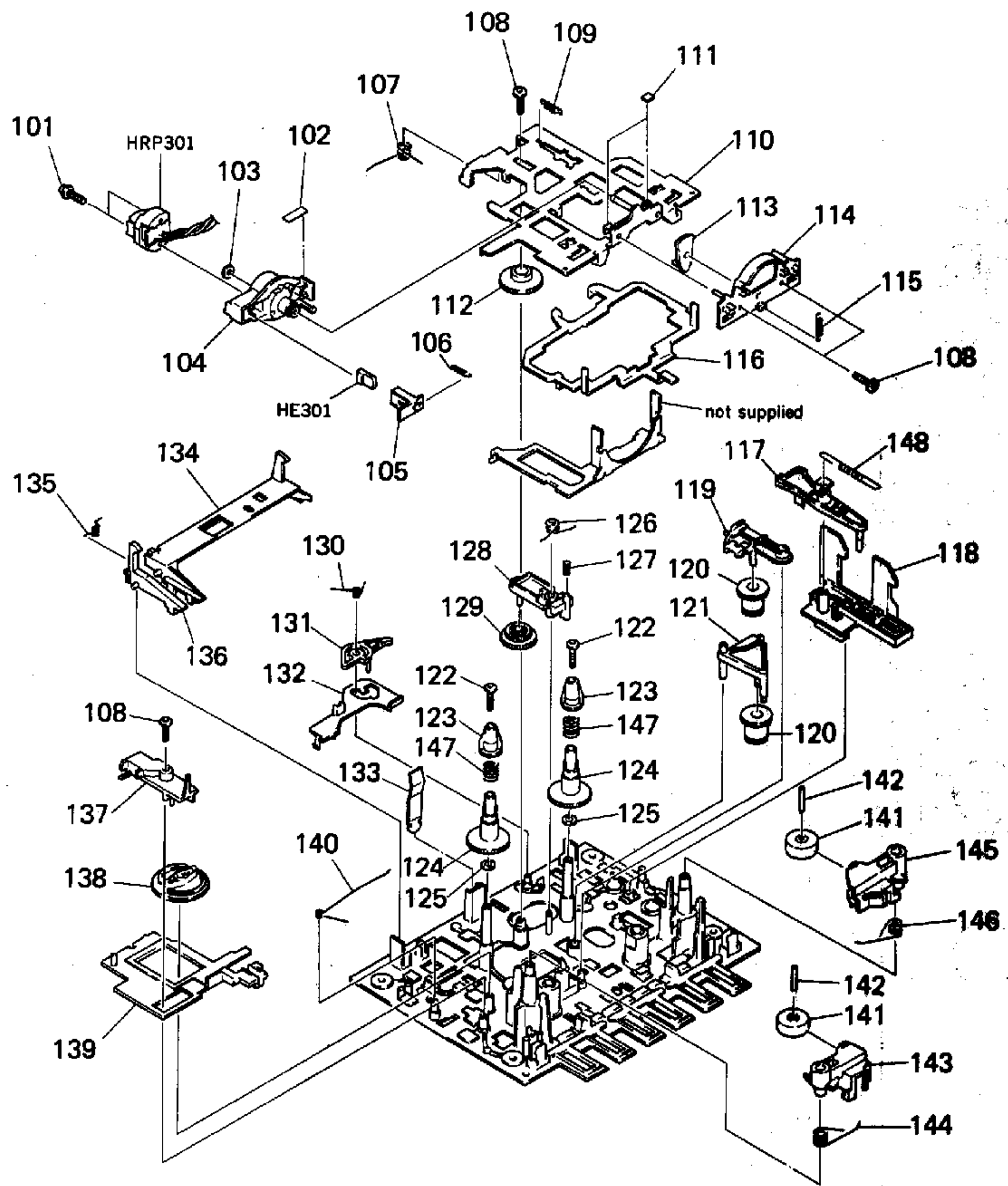
6-2. REAR CABINET SECTION



Ref. No.	Part No.	Description	Remark
* 51	3-374-518-01	BUTTON (MD)	
* 52	1-642-031-11	TAPE BOARD	
* 53	4-917-583-21	BRACKET, YOKE (M 3X8)	
* 54	A-3261-785-A	MAIN BOARD, COMPLETE	
* 55	3-374-526-01	KNOB (FUNCTION)	
* 56	3-374-543-01	KNOB (DBB) (MEGA BASS)	
57	3-374-531-01	SEAL (JACK), RUBBER	
58	3-375-095-01	TERMINAL (+), BATTERY	
59	3-375-096-01	SPRING (-), BATTERY	
* 60	3-374-538-01	BUTTON (MODE)	
61	3-374-524-01	SPRING (MODE)	
* 62	3-374-539-01	BUTTON (DIR)	
63	3-374-523-01	SPRING (DIR)	
* 64	3-374-519-01	LEVER (DIR)	

Ref. No.	Part No.	Description	Remark
* 65	3-374-540-01	LEVER (MODE)	
* 66	3-374-528-01	SHAFT, TUNING	
* 67	3-374-527-01	DRUM, VC	
* 68	3-374-533-01	PLATE, TERMINAL, ANTENNA	
69	3-374-530-01	WINDOW, LED	
70	3-374-532-01	SPRING (+ -), BATTERY	
71	3-374-556-01	CABINET (REAR) (YELLOW)	
71	3-374-556-11	CABINET (REAR) (WHITE)	
* 72	A-3261-965-A	TU BOARD, COMPLETE	
* 73	4-908-723-11	SPACER (1)	
ANT1	1-501-422-11	ANTENNA, TELESCOPIC	
ECM301	1-542-064-31	MICROPHONE, ELECTRET CONDENSER (MIC)	
S307	1-570-559-11	SWITCH, LEAF (DIR)	

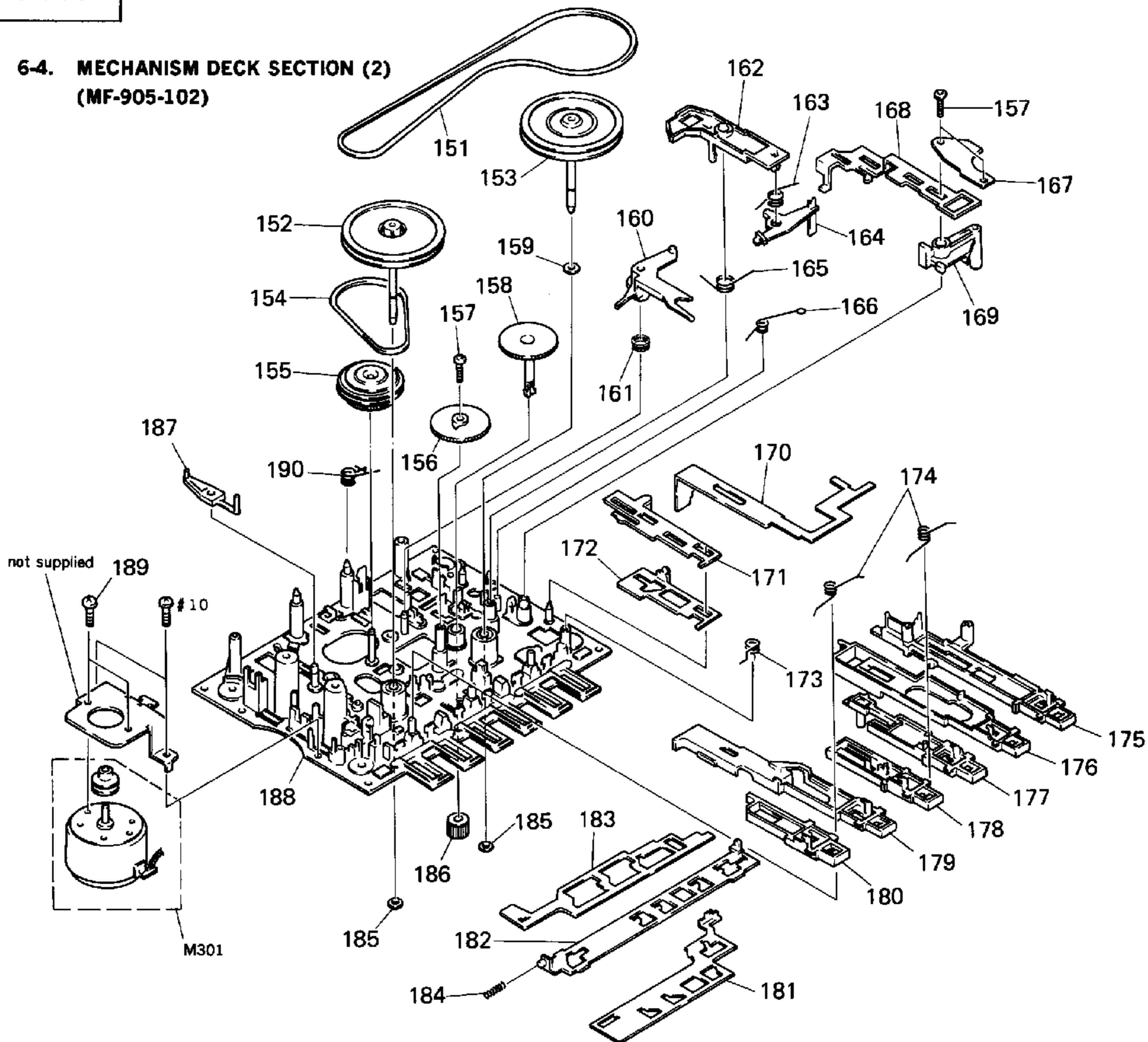
6-3. MECHANISM DECK SECTION (1)
(MF-905-102)



Ref. No.	Part No.	Description	Remark
101	3-309-597-81	SCREW (1.4), TAPPING	
102	3-831-441-XX	CUSHION, STOPPER	
103	3-336-319-01	RING, RETAINING	
104	3-374-371-01	HOLDER, HEAD	
105	3-374-344-01	GUIDE, ERASE HEAD	
106	3-374-345-01	SPRING, TENSION	
107	3-374-342-01	SPRING (HEAD), TORSION	
108	3-344-737-11	SCREW (B1.4X6), TAPPING	
109	3-307-378-00	SPRING, TENSION	
* 110	X-3363-914-1	BASE ASSY, HEAD	
* 111	3-377-197-01	SHEET (AZ) (T=0.09)	
111	3-377-197-11	SHEET (AZ) (T=0.115)	
111	3-377-197-21	SHEET (AZ) (T=0.14)	
111	3-377-197-31	SHEET (AZ) (T=0.165)	
111	3-377-197-41	SHEET (AZ) (T=0.23)	
112	3-374-329-01	GEAR, MIDWAY	
113	3-374-343-01	LEVER (FAN TYPE)	
114	3-374-369-01	GEAR (BASE), HEAD	
115	3-313-365-00	SPRING, TENSION	
* 116	3-374-370-01	SLIDER (HD)	
117	3-374-336-01	LEVER (SW)	
* 118	3-374-367-01	LEVER (EJECT)	
119	3-374-338-01	LEVER (REW)	
120	3-374-339-01	GEAR, FR	
121	3-374-368-01	LEVER (FF)	
122	3-344-737-11	SCREW (B1.4X6), TAPPING	
123	4-930-408-11	CLAW, REEL	

Ref. No.	Part No.	Description	Remark
124	3-374-326-01	TABLE, REEL	
125	3-377-195-01	WASHER (S)	
126	3-374-327-01	SPRING (N R), TORSION	
127	3-343-264-71	COLLAR, SPRING	
128	3-374-363-01	LEVER (FWD)	
129	3-374-328-01	GEAR, FWD	
130	3-374-334-01	SPRING (BRAKE), TORSION	
131	3-374-333-01	LEVER (PAUSE)	
132	3-374-332-01	SLIDER (BRAKE)	
133	3-376-135-01	SPRING, CASSETTE	
134	3-374-366-01	LEVER (ERASE R)	
135	4-930-451-01	SPRING	
136	3-374-335-01	LEVER (ERASE N)	
137	3-374-330-01	LEVER (DIR A)	
138	3-374-365-01	GEAR (NR), CAM	
139	3-374-364-01	SLIDER (NR)	
140	3-374-331-01	SPRING (DIR), TORSION	
141	3-366-051-01	PINCH ROLLER	
142	3-366-052-01	SHAFT, PINCH ROLLER	
* 143	3-374-373-01	LEVER (PINCH R)	
144	3-374-347-01	SPRING (R), TORSION	
* 145	3-374-372-01	LEVER (PINCH N)	
146	3-374-346-01	SPRING (N), TORSION	
147	3-343-381-01	SPRING, COMPRESSION	
148	3-377-194-01	SPRING, TENSION	
HE301	1-543-719-11	HEAD, MAGNETIC (ERASE)	
HRP301	1-543-872-11	HEAD, MAGNETIC (REC/PB)	

6-4. MECHANISM DECK SECTION (2)
(MF-905-102)



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
151	3-374-322-01	BELT		* 172	3-374-305-01	SLIDER (MODE A)	
152	X-3363-912-1	FLY ASSY (N)		173	3-374-309-01	SPRING (REC), TORSION	
153	X-3363-913-1	FLY ASSY (R)		174	3-374-308-01	SPRING (CONTROL), TORSION	
154	3-374-321-01	BELT		175	3-374-356-01	SLIDER (REC)	
155	X-3363-917-1	LIMITER ASSY, FWD		176	3-374-355-01	SLIDER (FWD)	
156	3-374-359-01	GEAR (SHUT OFF), CAM		177	3-374-354-01	SLIDER (REW)	
157	3-344-737-11	SCREW (B1. 4X6), TAPPING		178	3-374-353-01	SLIDER (FF)	
158	3-374-318-01	GEAR (A), DECELERATION		179	3-374-352-01	SLIDER (PAUSE)	
159	3-683-454-01	WASHER, POLYETHYLENE		180	3-374-351-01	SLIDER (STOP)	
* 160	3-374-316-01	LEVER (SHUT OFF A)		* 181	3-374-348-01	SLIDER (FR)	
161	3-375-011-01	SPRING, COMPRESSION		182	3-374-350-01	SLIDER (LOCK)	
162	3-374-357-01	LEVER (SHUT OFF C)		* 183	3-374-349-01	SLIDER (SW)	
163	3-374-311-01	SPRING (SHUT OFF C), TORSION		184	4-932-648-01	SPRING, COMPRESSION	
164	3-374-312-01	LEVER (SHUT OFF B)		185	3-374-324-01	RING, RETAINING	
165	3-374-313-01	SPRING (SHUT OFF), TORSION		186	3-374-325-01	GEAR (B), DECELERATION	
166	3-374-307-01	SPRING (MUTUAL), TORSION		187	3-374-304-01	LEVER (PAUSE ROCK)	
* 167	3-374-317-01	REINFORCEMENT		* 188	X-3363-918-1	CHASSIS ASSY, MECHANICAL	
168	3-374-358-01	SLIDER (ERASING)		189	3-343-251-01	SCREW (M2. 6X2. 5)	
169	3-374-314-01	LEVER (DIR B)		190	3-374-310-01	SPRING (FWD), TORSION	
* 170	3-374-315-01	SLIDER (CR)		M301	A-3253-181-A	MOTOR ASSY (INCLUDING PULLEY, RV401)	
171	3-374-306-01	SLIDER (MODE B)					

SECTION 7 ELECTRICAL PARTS LIST

MAIN

NOTE:

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

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA.: μ A. uPA.: μ PA.
uPB.: μ PB. uPC.: μ PC. uPD.: μ PD.
- CAPACITORS
uF: μ F
- COILS
uH: μ H

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

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

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

Ref. No.	Part No.	Description	Remark
*	A-3261-785-A	MAIN BOARD, COMPLETE *****	
	7-685-645-79	SCREW +BVTP 3X6 TYPE2 IT-3	
		< CAPACITOR >	
C101	1-126-301-11	ELECT 1uF	20% 50V
C102	1-124-902-00	ELECT 0.47uF	20% 50V
C103	1-162-294-31	CERAMIC 0.001uF	10% 50V
C104	1-161-374-11	CERAMIC 0.0015uF	20% 50V
C105	1-162-290-31	CERAMIC 470PF	10% 50V
C106	1-124-443-00	ELECT 100uF	20% 10V
C107	1-162-843-11	CERAMIC 0.022uF	10% 16V
C108	1-124-907-11	ELECT 10uF	20% 50V
C109	1-161-043-00	CERAMIC 0.0022uF	10% 50V
C110	1-162-282-31	CERAMIC 100PF	10% 50V
C111	1-162-282-31	CERAMIC 100PF	10% 50V
C112	1-162-294-31	CERAMIC 0.001uF	10% 50V
C113	1-124-902-00	ELECT 0.47uF	20% 50V
C114	1-162-847-11	CERAMIC 0.047uF	10% 16V
C115	1-124-903-11	ELECT 1uF	20% 50V
C116	1-161-377-00	CERAMIC 0.0047uF	20% 16V
C117	1-124-903-11	ELECT 1uF	20% 50V
C118	1-162-294-31	CERAMIC 0.001uF	10% 50V
C119	1-124-473-11	ELECT 1000uF	20% 10V
C120	1-130-490-11	MYLAR 0.039uF	5% 50V
C121	1-124-477-11	ELECT 47uF	20% 25V
C122	1-161-379-00	CERAMIC 0.01uF	20% 25V
C124	1-161-379-00	CERAMIC 0.01uF	20% 25V
C201	1-126-301-11	ELECT 1uF	20% 50V
C202	1-124-902-00	ELECT 0.47uF	20% 50V
C203	1-162-294-31	CERAMIC 0.001uF	10% 50V
C204	1-161-374-11	CERAMIC 0.0015uF	20% 50V
C205	1-162-290-31	CERAMIC 470PF	10% 50V
C206	1-124-443-00	ELECT 100uF	20% 10V
C207	1-162-843-11	CERAMIC 0.022uF	10% 16V
C208	1-124-907-11	ELECT 10uF	20% 50V
C209	1-161-043-00	CERAMIC 0.0022uF	10% 50V
C210	1-162-282-31	CERAMIC 100PF	10% 50V
C211	1-162-282-31	CERAMIC 100PF	10% 50V

Ref. No.	Part No.	Description	Remark
C212	1-162-294-31	CERAMIC 0.001uF	10% 50V
C213	1-124-902-00	ELECT 0.47uF	20% 50V
C214	1-162-847-11	CERAMIC 0.047uF	10% 16V
C215	1-124-903-11	ELECT 1uF	20% 50V
C216	1-161-377-00	CERAMIC 0.0047uF	20% 16V
C217	1-124-903-11	ELECT 1uF	20% 50V
C218	1-162-294-31	CERAMIC 0.001uF	10% 50V
C219	1-124-473-11	ELECT 1000uF	20% 10V
C220	1-130-490-11	MYLAR 0.039uF	5% 50V
C221	1-124-477-11	ELECT 47uF	20% 25V
C222	1-161-379-00	CERAMIC 0.01uF	20% 25V
C224	1-161-379-00	CERAMIC 0.01uF	20% 25V
C301	1-162-847-11	CERAMIC 0.047uF	10% 16V
C302	1-124-902-00	ELECT 0.47uF	20% 50V
C303	1-124-907-11	ELECT 10uF	20% 50V
C304	1-162-847-11	CERAMIC 0.047uF	10% 16V
C305	1-161-379-00	CERAMIC 0.01uF	20% 25V
C306	1-124-119-00	ELECT 330uF	20% 16V
C307	1-124-907-11	ELECT 10uF	20% 50V
C308	1-124-034-51	ELECT 33uF	20% 16V
C309	1-161-379-00	CERAMIC 0.01uF	20% 25V
C310	1-162-847-11	CERAMIC 0.047uF	10% 16V
C311	1-162-847-11	CERAMIC 0.047uF	10% 16V
C312	1-124-902-00	ELECT 0.47uF	20% 50V
C313	1-162-290-31	CERAMIC 470PF	10% 50V
C314	1-124-034-51	ELECT 33uF	20% 16V
C315	1-126-176-11	ELECT 220uF	20% 10V
C316	1-124-907-11	ELECT 10uF	20% 50V
C317	1-162-294-31	CERAMIC 0.001uF	10% 50V
C318	1-124-034-51	ELECT 33uF	20% 16V
C319	1-124-907-11	ELECT 10uF	20% 50V
C320	1-124-907-11	ELECT 10uF	20% 50V
C321	1-124-464-11	ELECT 0.22uF	20% 50V
C322	1-162-282-31	CERAMIC 100PF	10% 50V
C323	1-124-034-51	ELECT 33uF	20% 16V
C324	1-124-903-11	ELECT 1uF	20% 50V
C325	1-124-927-11	ELECT 4.7uF	20% 100V
C326	1-130-482-00	MYLAR 0.0082uF	5% 50V
C327	1-162-286-31	CERAMIC 220PF	10% 50V
C328	1-124-477-11	ELECT 47uF	20% 25V

Ref. No.	Part No.	Description	Remark
C329	1-130-476-00	MYLAR	0.0027uF 5% 50V
C330	1-124-556-11	ELECT	2200uF 20% 16V
C331	1-161-374-11	CERAMIC	0.0015uF 20% 50V
C332	1-162-294-31	CERAMIC	0.001uF 10% 50V
C333	1-161-379-00	CERAMIC	0.01uF 20% 25V
C334	1-161-379-00	CERAMIC	0.01uF 20% 25V
C335	1-162-290-31	CERAMIC	470PF 10% 50V
C336	1-124-443-00	ELECT	100uF 20% 10V
C337	1-162-294-31	CERAMIC	0.001uF 10% 50V
C355	1-162-288-31	CERAMIC	330PF 10% 50V

< CONNECTOR >

CN701	1-506-986-11	PIN, CONNECTOR (PC BOARD)	4P
CN702	1-506-986-11	PIN, CONNECTOR (PC BOARD)	4P
CN703	1-506-987-11	PIN, CONNECTOR (PC BOARD)	5P
* CN704	1-506-987-11	PIN, CONNECTOR (PC BOARD)	5P

< DIODE >

D301	8-719-911-19	DIODE	1SS119
D302	8-719-911-19	DIODE	1SS119
D303	8-719-911-19	DIODE	1SS119
D304	8-719-911-19	DIODE	1SS119
D305	8-719-911-19	DIODE	1SS119
D306	8-719-911-19	DIODE	1SS119
D307	8-719-200-02	DIODE	10E2
D308	8-719-109-92	DIODE	RD6.2ES-B1
D310	8-719-980-67	LED	MVR3338S (OPR/BATT)
D311	8-719-911-19	DIODE	1SS119
D312	8-719-911-19	DIODE	1SS119

< MICROPHONE >

ECM301	1-542-064-31	MICROPHONE, ELECTRET CONDENSER (MIC)
--------	--------------	--------------------------------------

< IC >

IC301	8-759-978-54	IC	BA3420AL
IC302	8-759-048-60	IC	BA3870
IC303	8-759-972-19	IC	BA5410

< JACK >

J301	1-566-891-11	JACK (PHONES)
J302	1-573-667-11	JACK, DC (POLAR UNITY TYPE) (DC IN 9V)

< IC LINK >

△PS901	1-532-675-00	LINK, IC ICP-F38 (1.5A)
--------	--------------	-------------------------

< TRANSISTOR >

Q101	8-729-900-74	TRANSISTOR	DTC143TS
Q201	8-729-900-74	TRANSISTOR	DTC143TS

Ref. No.	Part No.	Description	Remark
Q301	8-729-801-93	TRANSISTOR	2SD1387
Q302	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q303	8-729-900-85	TRANSISTOR	DTC144WS
Q304	8-729-900-74	TRANSISTOR	DTC143TS
Q305	8-729-281-53	TRANSISTOR	2SC1815-GR
Q306	8-729-900-61	TRANSISTOR	DTA114ES
Q307	8-729-173-38	TRANSISTOR	2SA733-K
Q308	8-729-281-53	TRANSISTOR	2SC1815-GR
Q309	8-729-119-78	TRANSISTOR	2SC2785-HFE
Q310	8-729-904-34	TRANSISTOR	DTA114TS

< RESISTOR >

R101	1-247-895-00	CARBON	470K 5% 1/4W
R102	1-249-429-11	CARBON	10K 5% 1/4W
R103	1-249-418-11	CARBON	1.2K 5% 1/4W
R104	1-249-401-11	CARBON	47 5% 1/4W
R105	1-247-850-11	CARBON	6.2K 5% 1/4W
R106	1-249-409-11	CARBON	220 5% 1/4W
R107	1-249-437-11	CARBON	47K 5% 1/4W
R108	1-249-429-11	CARBON	10K 5% 1/4W
R109	1-249-409-11	CARBON	220 5% 1/4W
R110	1-249-426-11	CARBON	5.6K 5% 1/4W
R111	1-249-419-11	CARBON	1.5K 5% 1/4W
R112	1-247-866-11	CARBON	30K 5% 1/4W
R113	1-247-903-00	CARBON	1M 5% 1/4W
R114	1-249-406-11	CARBON	120 5% 1/4W
R115	1-249-405-11	CARBON	100 5% 1/4W
R201	1-247-895-00	CARBON	470K 5% 1/4W
R202	1-249-429-11	CARBON	10K 5% 1/4W
R203	1-249-418-11	CARBON	1.2K 5% 1/4W
R204	1-249-401-11	CARBON	47 5% 1/4W
R205	1-247-850-11	CARBON	6.2K 5% 1/4W
R206	1-249-409-11	CARBON	220 5% 1/4W
R207	1-249-437-11	CARBON	47K 5% 1/4W
R208	1-249-429-11	CARBON	10K 5% 1/4W
R209	1-249-409-11	CARBON	220 5% 1/4W
R210	1-249-426-11	CARBON	5.6K 5% 1/4W
R211	1-249-419-11	CARBON	1.5K 5% 1/4W
R212	1-247-866-11	CARBON	30K 5% 1/4W
R213	1-247-903-00	CARBON	1M 5% 1/4W
R214	1-249-406-11	CARBON	120 5% 1/4W
R215	1-249-405-11	CARBON	100 5% 1/4W
R301	1-249-442-11	CARBON	510 5% 1/4W
R302	1-249-424-11	CARBON	3.9K 5% 1/4W
R303	1-249-421-11	CARBON	2.2K 5% 1/4W
R304	1-247-895-00	CARBON	470K 5% 1/4W
R305	1-249-432-11	CARBON	18K 5% 1/4W
R306	1-249-425-11	CARBON	4.7K 5% 1/4W
R307	1-249-407-11	CARBON	150 5% 1/4W

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

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

Ref. No.	Part No.	Description	Remark
R308	1-247-883-00	CARBON	150K 5% 1/4W
R309	1-249-441-11	CARBON	100K 5% 1/4W
R310	1-249-425-11	CARBON	4.7K 5% 1/4W
R311	1-249-423-11	CARBON	3.3K 5% 1/4W
R312	1-249-417-11	CARBON	1K 5% 1/4W
R313	1-247-838-00	CARBON	2K 5% 1/4W
R314	1-249-441-11	CARBON	100K 5% 1/4W
R315	1-247-903-00	CARBON	1M 5% 1/4W
R316	1-249-421-11	CARBON	2.2K 5% 1/4W
R317	1-249-429-11	CARBON	10K 5% 1/4W
R318	1-249-433-11	CARBON	22K 5% 1/4W
R319	1-249-405-11	CARBON	100 5% 1/4W
R320	1-249-441-11	CARBON	100K 5% 1/4W
R321	1-249-421-11	CARBON	2.2K 5% 1/4W
R322	1-249-437-11	CARBON	47K 5% 1/4W
R323	1-247-804-11	CARBON	75 5% 1/4W
R324	1-249-437-11	CARBON	47K 5% 1/4W
R325	1-247-776-00	CARBON	5.1 5% 1/4W
R326	1-249-429-11	CARBON	10K 5% 1/4W
R327	1-249-410-11	CARBON	270 5% 1/4W
R328	1-249-415-11	CARBON	680 5% 1/4W
R329	1-249-424-11	CARBON	3.9K 5% 1/4W
R330	1-249-401-11	CARBON	47 5% 1/4W

< VARIABLE RESISTOR >

RV301	1-237-567-11	RES, VAR, CARBON 20K/20K (TONE)
RV302	1-230-454-11	RES, VAR, CARBON 20K/20K (VOLUME)

< SWITCH >

S301	1-571-950-11	SWITCH, SLIDE (REC/PB)
S302	1-571-964-11	SWITCH, LEVER SLIDE (FUNCTION)
S303	1-571-360-11	SWITCH, PUSH (1 KEY) (MEGA BASS)

< TRANSFORMER >

T301	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR
------	--------------	------------------------------

* 1-642-031-11 TAPE BOARD

< CAPACITOR >

C350	1-161-379-00	CERAMIC	0.01uF	20%	25V
C354	1-161-379-00	CERAMIC	0.01uF	20%	25V

< CONNECTOR >

* CN706 1-506-998-11 PIN, CONNECTOR (PC BOARD) 2P
* CN707 1-506-998-11 PIN, CONNECTOR (PC BOARD) 2P

Ref. No.	Part No.	Description	Remark
< DIODE >			
D309	8-719-200-02	DIODE	10E2
< SWITCH >			
S304	1-571-890-11	SWITCH, LEAF (AMP POWER)	
S305	1-571-890-11	SWITCH, LEAF (FF/REW)	
S306	1-571-890-11	SWITCH, LEAF (MOTOR POWER)	
< CONNECTOR >			
* WH705	1-565-385-11	HOLDER, CABLE 4P	

* A-3261-965-A	TU BOARD, COMPLETE		

* 3-374-527-01	DRUM, VC		
7-621-770-87	SCREW +B 2.6X5		
< CAPACITOR >			

C1	1-102-961-00	CERAMIC	27PF	5%	50V
C2	1-164-053-11	CERAMIC	20PF	5%	50V
C3	1-162-192-31	CERAMIC	2.7PF	10%	50V
C4	1-162-839-11	CERAMIC	0.01uF	10%	16V
C5	1-124-034-51	ELECT	33uF	20%	16V
C6	1-164-078-11	CERAMIC	270PF	10%	50V
C7	1-124-126-00	ELECT	47uF	20%	10V
C8	1-124-925-11	ELECT	2.2uF	20%	100V
C9	1-124-126-00	ELECT	47uF	20%	10V
C10	1-162-839-11	CERAMIC	0.01uF	10%	16V
C11	1-124-927-11	ELECT	4.7uF	20%	100V
C12	1-124-903-11	ELECT	1uF	20%	50V
C13	1-162-842-11	CERAMIC	0.018uF	10%	16V
C14	1-162-842-11	CERAMIC	0.018uF	10%	16V
C15	1-124-903-11	ELECT	1uF	20%	50V
C16	1-124-902-00	ELECT	0.47uF	20%	50V
C17	1-124-927-11	ELECT	4.7uF	20%	100V
C18	1-124-907-11	ELECT	10uF	20%	50V
C19	1-124-464-11	ELECT	0.22uF	20%	50V
C20	1-124-464-11	ELECT	0.22uF	20%	50V
C21	1-162-192-31	CERAMIC	2.7PF	10%	50V
C22	1-102-944-00	CERAMIC	7PF	0.5PF	50V
C23	1-162-839-11	CERAMIC	0.01uF	10%	16V
C24	1-162-839-11	CERAMIC	0.01uF	10%	16V

< FILTER >

CF1 1-567-166-00 FILTER, CERAMIC
CF2 1-567-166-00 FILTER, CERAMIC

Ref. No.	Part No.	Description	Remark
		< ENCAPSULATED COMPONENT >	
CFT1	1-236-079-11	ENCAPSULATED COMPONENT	
		< CONNECTOR >	
CNP1	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P	
		< TRIMMER >	
CT1-4 } CV1-4 }	1-151-624-11	CAP, VARIABLE (TUNING)	
		< DIODE >	
D1	8-719-911-19	DIODE 1SS119	
D2	8-719-911-19	DIODE 1SS119	
D3	8-719-980-67	LED MVR3338S (FM STEREO)	
		< FILTER >	
FL1	1-236-022-11	FILTER, BAND PASS	
		< IC >	
IC1	8-752-050-20	IC CXA1238S	
		< COIL >	
* L1	1-422-230-11	COIL, VHF	
L2	1-422-317-31	COIL, VHF	
L3	1-402-429-11	ANTENNA, FERRITE-ROD (AM)	
L4	1-406-040-00	COIL (OSC)	
		< TRANSISTOR >	
Q1	8-729-900-80	TRANSISTOR DTC114ES	
Q2	8-729-173-38	TRANSISTOR 2SA733-K	
		< RESISTOR >	
R1	1-249-441-11	CARBON 100K 5% 1/4W	
R2	1-249-421-11	CARBON 2.2K 5% 1/4W	
R3	1-249-415-11	CARBON 680 5% 1/4W	
R4	1-249-405-11	CARBON 100 5% 1/4W	
R5	1-249-427-11	CARBON 6.8K 5% 1/4W	
R6	1-249-427-11	CARBON 6.8K 5% 1/4W	
R7	1-247-887-00	CARBON 220K 5% 1/4W	
R8	1-249-421-11	CARBON 2.2K 5% 1/4W	
R9	1-247-887-00	CARBON 220K 5% 1/4W	
R10	1-249-429-11	CARBON 10K 5% 1/4W	
R11	1-249-411-11	CARBON 330 5% 1/4W	
R12	1-249-411-11	CARBON 330 5% 1/4W	
R13	1-249-398-11	CARBON 27 5% 1/4W	
R14	1-249-429-11	CARBON 10K 5% 1/4W	
R15	1-249-429-11	CARBON 10K 5% 1/4W	

Ref. No.	Part No.	Description	Remark
R16	1-249-429-11	CARBON 10K 5% 1/4W	
R17	1-249-411-11	CARBON 330 5% 1/4W	
R18	1-249-423-11	CARBON 3.3K 5% 1/4W	
R19	1-249-405-11	CARBON 100 5% 1/4W	
R20	1-249-433-11	CARBON 22K 5% 1/4W	
R21	1-249-423-11	CARBON 3.3K 5% 1/4W	
		< VARIABLE RESISTOR >	
RV1	1-238-601-11	RES, ADJ, CARBON 22K	

MISCELLANEOUS			

ANT1	1-501-422-11	ANTENNA, TELESCOPIC	
HE301	1-543-719-11	HEAD, MAGNETIC (ERASE)	
HRP301	1-543-872-11	HEAD, MAGNETIC (REC/PB)	
M301	A-3253-181-A	MOTOR ASSY (INCLUDING PULLEY, RV401)	
RV401	1-230-495-11	RES, ADJ CARBON 2.2K	
S307	1-570-559-11	SWITCH, LEAF (DIR)	
SP101	1-503-631-11	SPEAKER	
SP201	1-503-631-11	SPEAKER	

ACCESSORIES & PACKING MATERIALS			

△	1-693-015-11	ADAPTOR, AC (AC-905) (Canadian)	
△	1-693-016-11	ADAPTOR, AC (AC-905) (US)	
*	3-378-160-01	CUSHION (L, R)	
*	3-378-162-01	INDIVIDUAL CARTON	
	3-754-449-21	MANUAL, INSTRUCTION (ENGLISH)	
	3-754-449-31	MANUAL, INSTRUCTION (FRENCH) (Canadian)	

HARDWARE LIST			

#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	
#2	7-685-649-79	SCREW +BVTP 3X14 TYPE2 IT-3	
#3	7-685-651-79	SCREW +BVTP 3X20 TYPE2 IT-3	
#4	7-685-133-19	SCREW +P 2.6X6 TYPE2	
#5	7-682-553-04	SCREW +BVTT 3X20 (S)	
#6	7-685-132-19	SCREW +BTP 2.6X5 TYPE2 N-S	
#7	7-685-645-79	SCREW +BVTP 3X6 TYPE2 IT-3	
#8	7-621-770-87	SCREW +B 2.6X5	
#9	7-682-547-04	SCREW +B 3X6	
#10	7-621-775-20	SCREW +PTT 2.6X5 (S)	

<p>The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.</p>	<p>Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
---	---