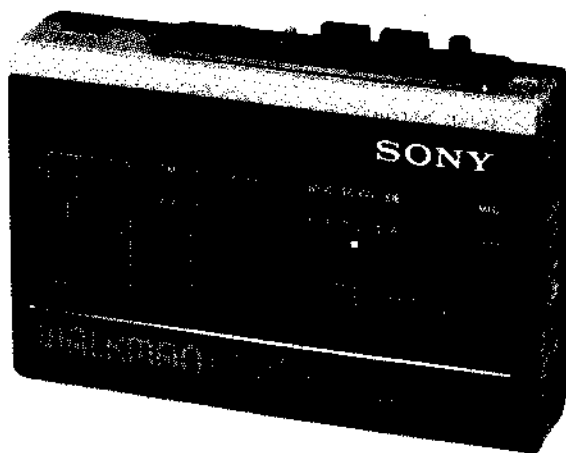


WM-F59/F69

SERVICE MANUAL



US Model
Canadian Model
WM-F69
AEP Model
UK Model
E Model
WM-F59

SPECIFICATIONS

Radio section

Frequency range FM: 87.6–108MHz
AM: 530–1,605kHz
Antenna FM: Headphone cord antenna
AM: Built-in ferrite bar antenna

Tape player section and general

Tape track 4-track 2-channel stereo
Frequency response (DOLBY NR OFF)
40–15,000 Hz (with the TAPE selector set to CrO₂/METAL)
40–15,000 Hz (with the TAPE selector set to NORM)

Power output (headphones)

20mW + 20mW load impedance 32ohms at DC operation

Power requirements

3V DC two size AA (R6) batteries
DC IN 3V jack accepts:
Optional Sony EBP-500B battery case for use with two size D (R20) batteries
Optional Sony AC-D2L AC power adaptor
for use on 120V AC, 60Hz (US, Canadian model)
for use on 220V AC, 50Hz (AEP model)
for use on 240V AC, 50Hz (UK model)
for use on 120V AC, 60Hz or 220V AC 50Hz (E model)
Optional Sony DCC-70 car battery cord for use with 12V car battery

Battery life

Batteries	FM reception	Tape playback
Sony SUM-3 (NS)	Approx. 17 hours	Approx. 3.5 hours
Sony alkaline AM3 (N)	Approx. 40 hours	Approx. 8 hours

For maximum performance we recommend the use of alkaline batteries.

Dimensions

Approx. 135.5×92.5×35.3mm (w/h/d)
(5 $\frac{3}{8}$ ×3 $\frac{3}{4}$ ×1 $\frac{7}{16}$ inches)

Weight

incl. projecting parts and controls
Approx. 250g (8.8oz) incl. batteries, not incl. other accessories


Model Name Using Similar Mechanism	WM-F63/F73
Tape Transport Mechanism Type	MF-WMF69-80

Accessories supplied

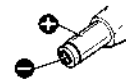
Stereo headphones (open-air type, 1)
Belt clip (1)

FEATURES

- Built-in FM/AM tuner.
- Auto-reverse function which changes the tape playback direction without turning the cassette over.
- 3-band graphic equalizer which allows you to make fine adjustments in the tone quality.
- Dolby NR* system reduces tape-hiss noise during playback.

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

Note: Use only the recommended AC power adaptor or car battery cord manufactured by Sony. Polarity of the plugs of other manufacturers may be different.



Polarity of the Sony plug



MC-Service

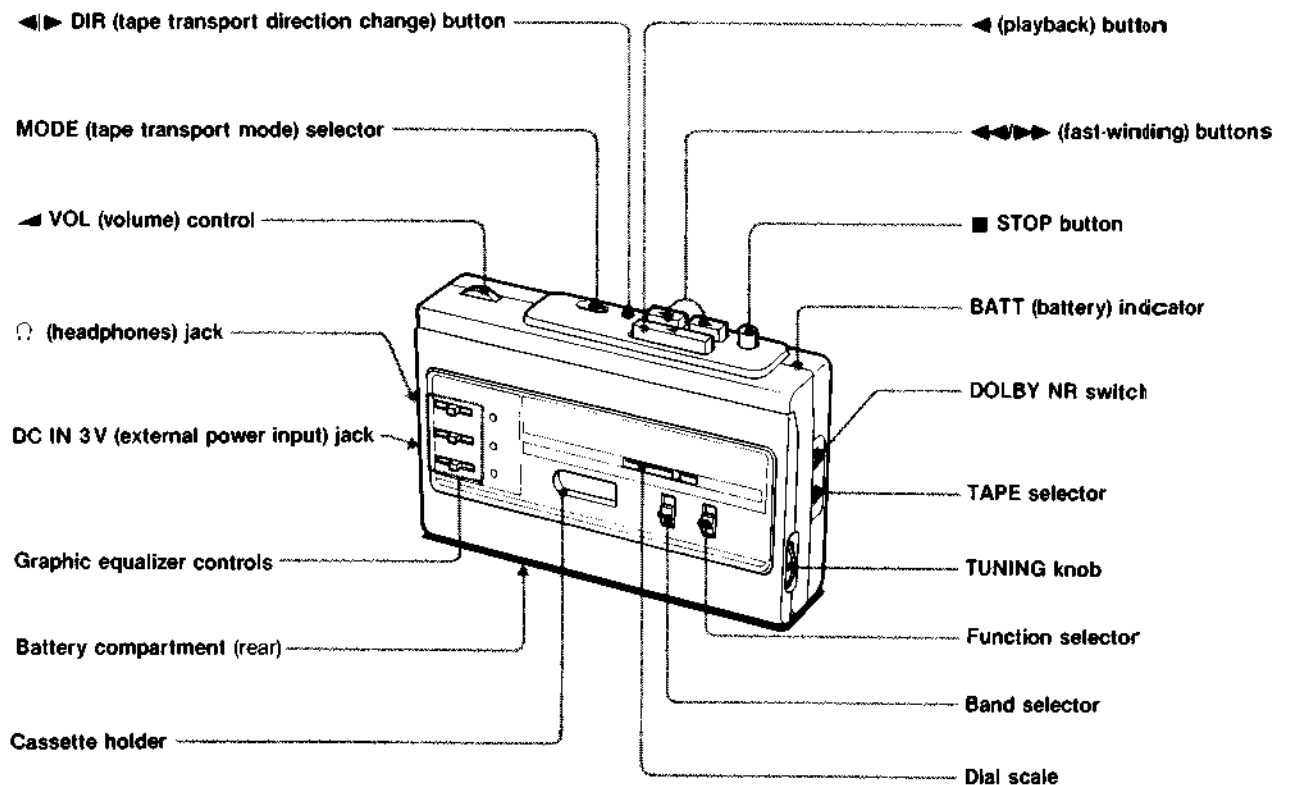
RADIO CASSETTE PLAYER
SONY®

TC

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
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PARTS IDENTIFICATION



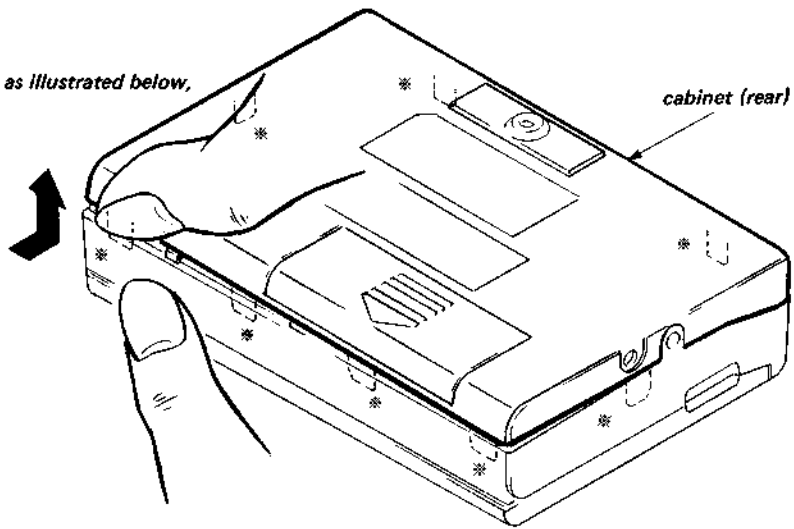
**SECTION 1
DISASSEMBLY**

Note: Follow the disassembly procedure the numerical order given.

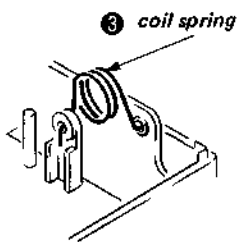
1-1. REMOVAL

CABINET (REAR)

- ① Push the rear cabinet forcefully as illustrated below, then remove the claws (8 pcs).

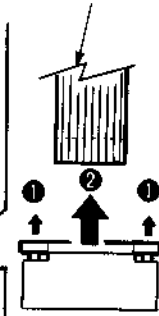


CABINET (CASSETTE)

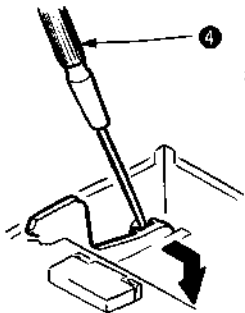


flexible board

Slide the connector to the direction shown by the arrow, then remove the flexible board.

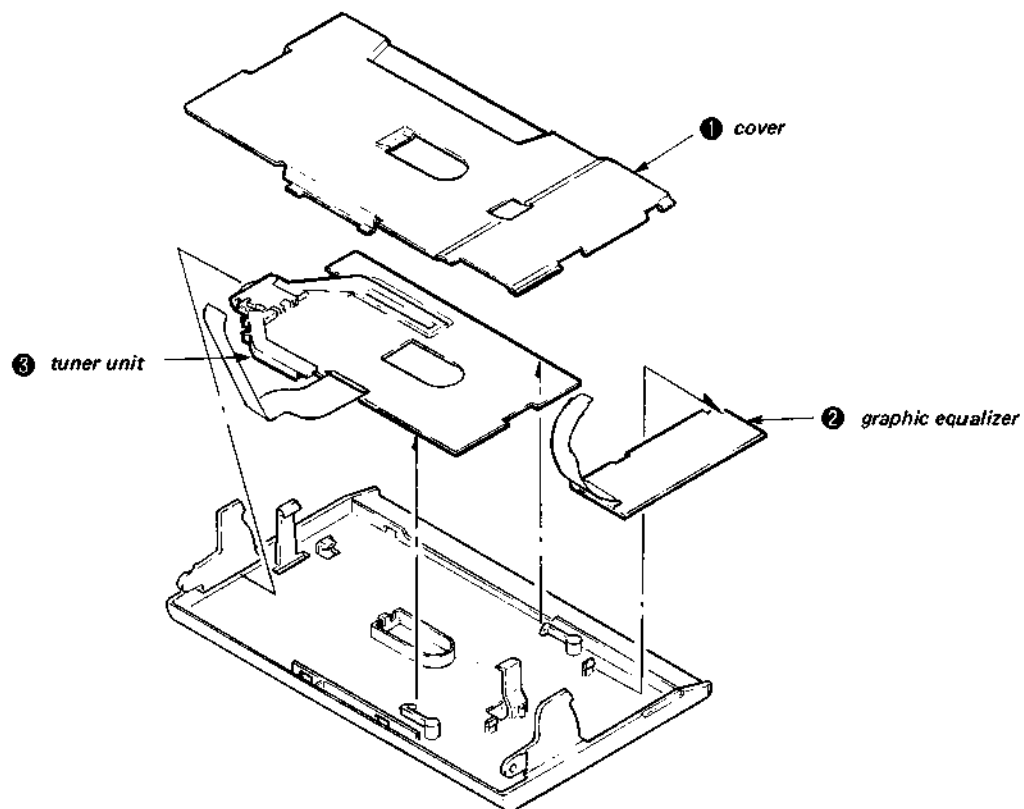


- ④ Remove the cassette cabinet from the dowel as shown by the arrow mark.

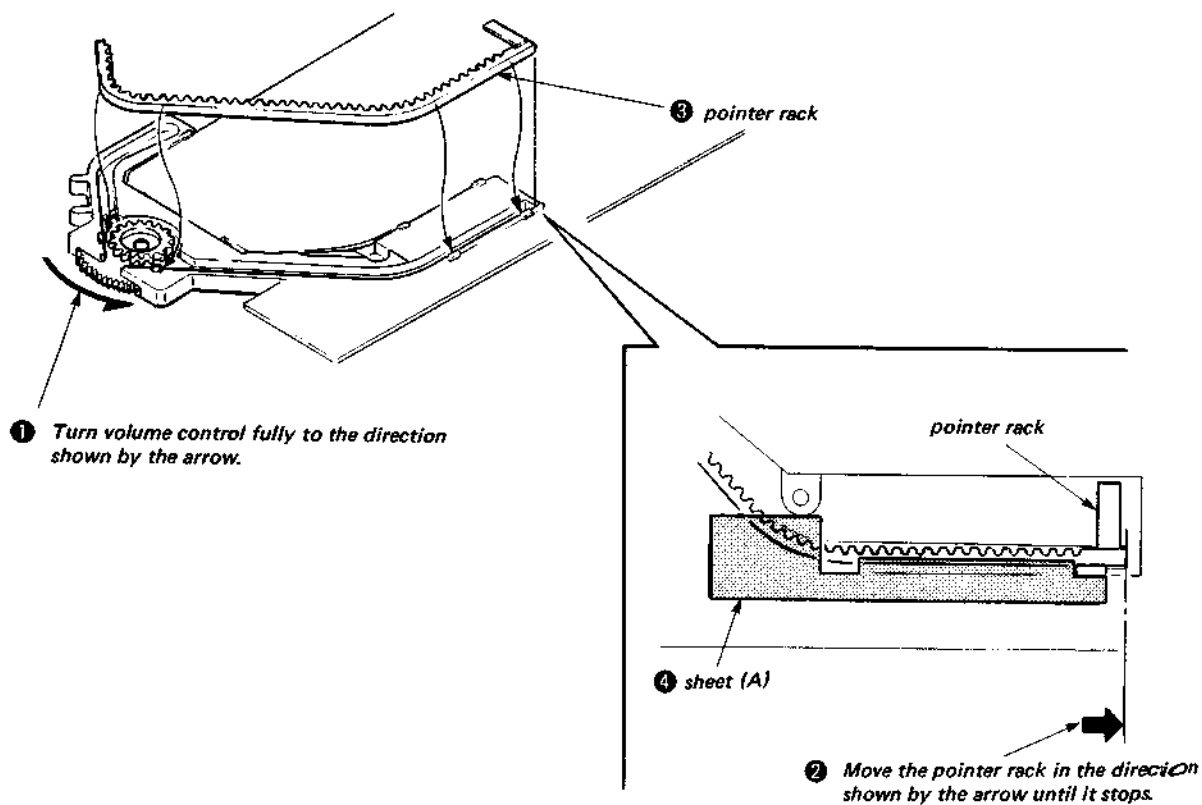


⑤ cabinet (cassette)

TUNER UNIT AND GRAPHIC EQUALIZER UNIT



1-2. POINTER RACK SETTING



**SECTION 2
ADJUSTMENTS**

2-1. MECHANICAL MEASUREMENTS

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 performed with the rated power supply voltage (2.5V) unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	22 – 55 g·cm (0.30 – 0.76 oz·inch)
FWD Back Tension		less than 3 g·cm (less than 0.04 oz·inch)
REV	CQ-102RB	22 – 55 g·cm (0.30 – 0.76 oz·inch)
REV Back Tension		less than 3 g·cm (less than 0.04 oz·inch)
FF, REW	CQ-201B	more than 60 g·cm (more than 0.83 oz·inch)

Tape Tension Measurement

Mode	Torque meter	Meter reading
FWD	CQ-403A	more than 55 g·cm (more than 0.76 oz·inch)
REV	CQ-403R	

2-2. ELECTRICAL ADJUSTMENTS

CASSETTE SECTION

Playback Head Azimuth Check

- Perform this check both in FWD and REV mode.

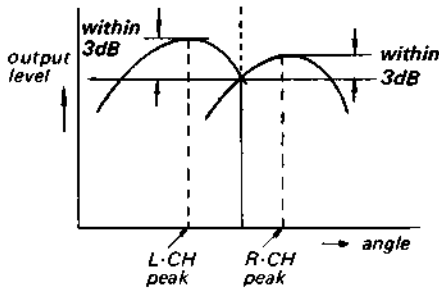
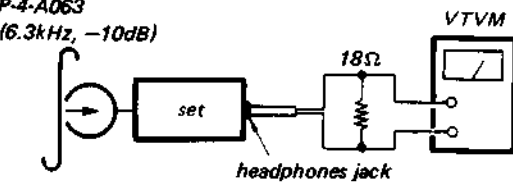
Note: This set is not featured the head azimuth adjustment.
When replacing the head, check the both L-ch and R-ch output levels and also those phases.

Procedure:

1. Level Check

Mode: playback

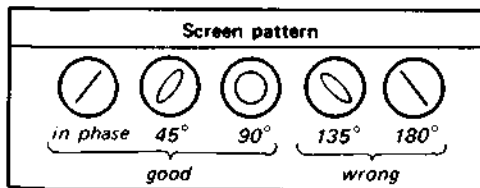
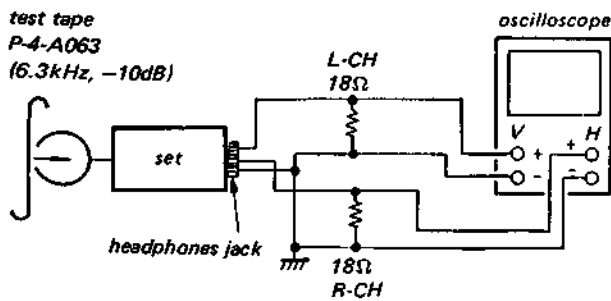
test tape
P-4-A063
(6.3kHz, -10dB)



2. Phase Check

Mode: playback

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

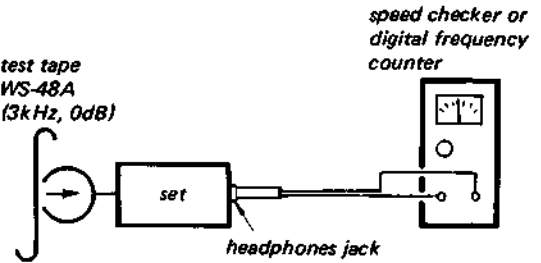


Tape Speed Adjustment

Procedure:

Mode: playback

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

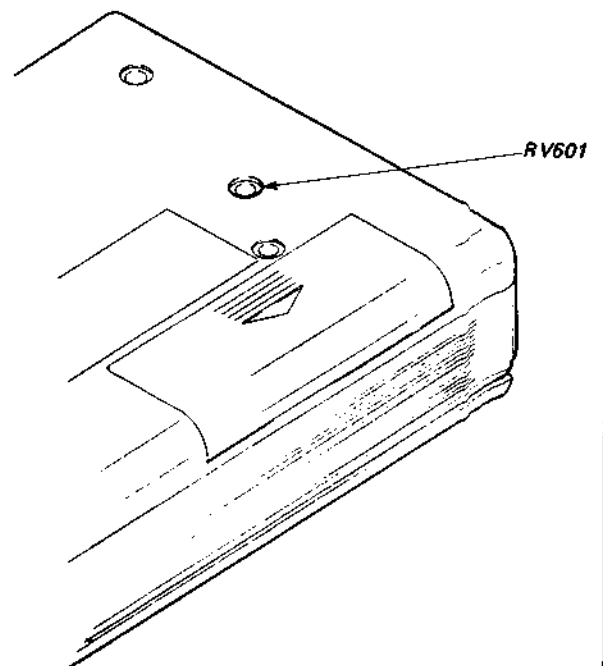


Specification:

speed checker	digital frequency counter
±1%	2,970 - 3,030Hz

Frequency difference between the beginning and the end of the tape should be within ± 2.5% (±75Hz).

Adjustment Location:

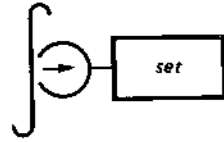


Dolby NR Level Adjustment

Procedure:

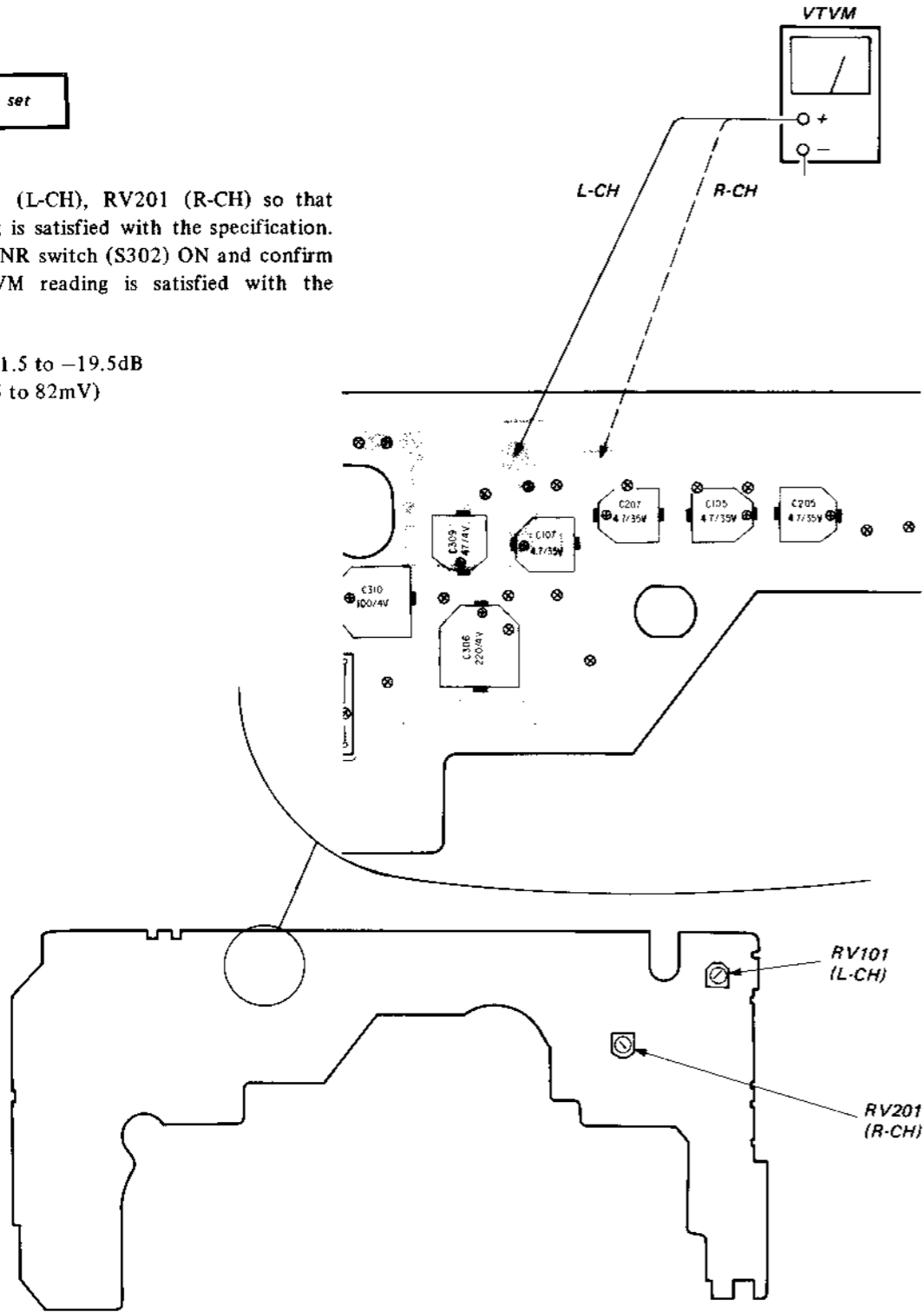
TAPE switch: NORM
 DOLBY NR switch: OFF

test tape
 P-4-L300
 (315Hz, 0dB)



1. Adjust RV101 (L-CH), RV201 (R-CH) so that VTVM reading is satisfied with the specification.
2. Turn DOLBY NR switch (S302) ON and confirm that the VTVM reading is satisfied with the specification.

Specification: -21.5 to -19.5dB
 (65 to 82mV)



RADIO SECTION

AM

Setting

Function: RADIO
 BAND/SENS: AM

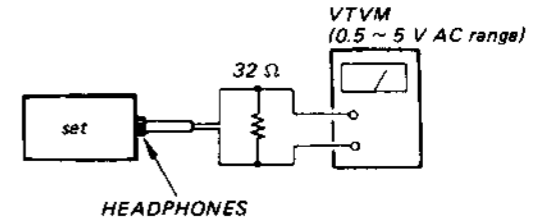
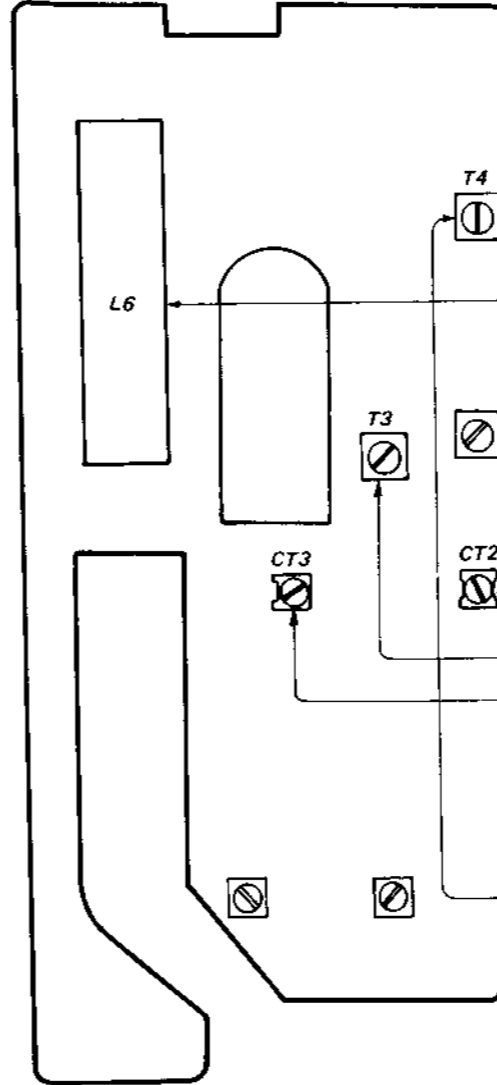
AM RF signal generator



Put the lead-wire antenna close to the set.

30% amplitude modulation by 400 Hz signal

TUNER board



AM TRACKING ADJUSTMENT

Adjust for a maximum reading on VTVM.

L6	620 kHz
CT2	1,400 kHz

AM FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on VTVM.

T3	525 kHz
CT3	1,650 kHz

AM IF ADJUSTMENT

Adjust for a maximum reading on VTVM.

T4	455 kHz (468 kHz)
----	----------------------

(): UK MODEL

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

FM

TUNER board

to be adjusted
 readings
 tuning dial

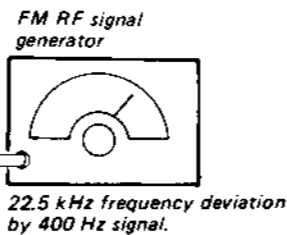
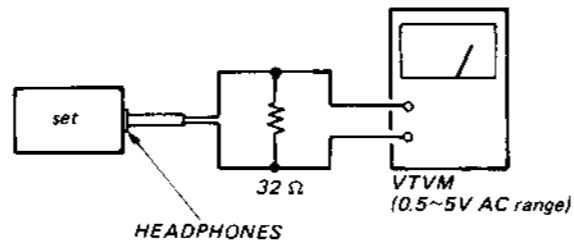
FM

FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
86.5 MHz	109.5 MHz
(87.35 MHz)	(108 MHz)
T2	CT1

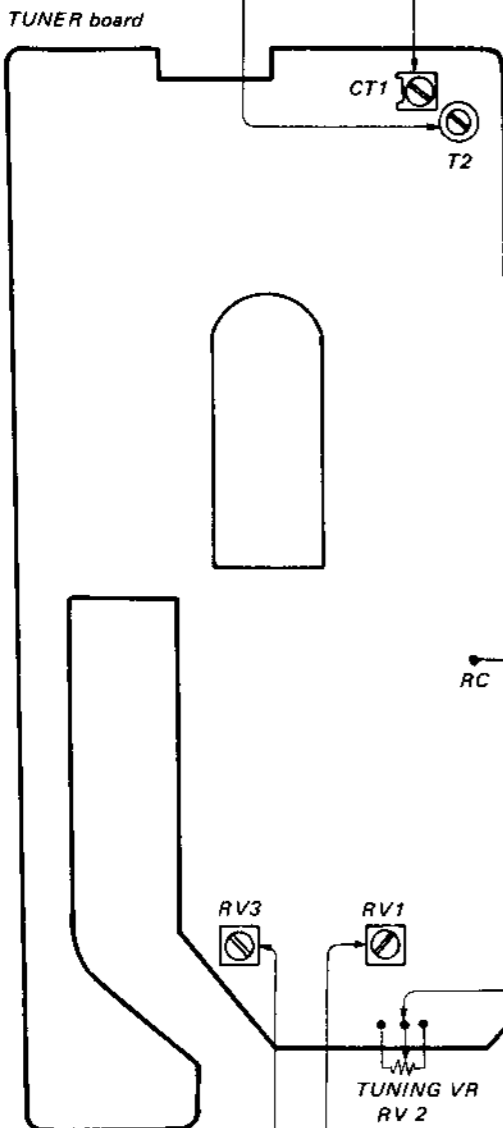
* FM frequency coverage adjustment should be done after frequency control voltage adjustment.

(): G-AEP MODEL

Setting:
 FUNCTION: RADIO
 BAND/SENS: FM (DX) WM-F69
 FM (ST) WM-F59



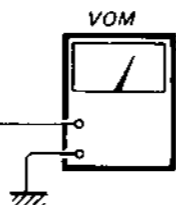
• Repeat the procedures in each adjustment several times, and the adjustments should be finally done by the trimmer capacitors.



FREQUENCY CONTROL VOLTAGE ADJUSTMENT

* This adjustment should be done before FM frequency coverage adjustment.

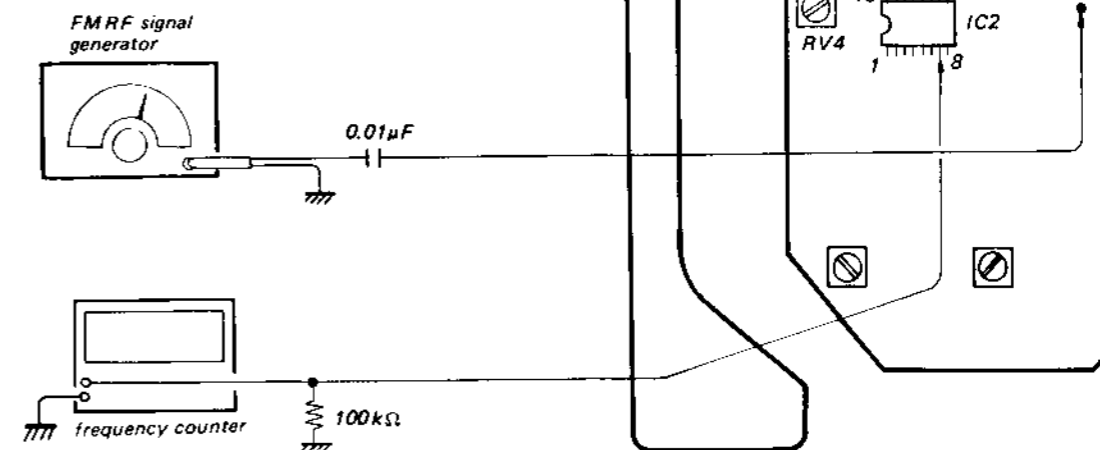
to be adjusted	RV3	RV1
readings	1 V ± 0.1 V	9 V ± 0.1 V
tuning dial	f min	f max



VCO Adjustment

Procedure: Carrier frequency: 98 MHz
 Modulation: 1 kHz deviation (30%)

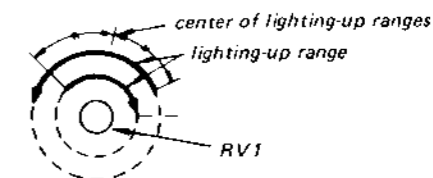
1. Tune the set to 98 MHz.
2. Adjust RV4 for 38 kHz ± 200 Hz on the counter.



• Simple Method

Procedure:

1. Receive an FM stereo broadcasting signal.
2. Turn RV4 back and forth, and set at the center of where the stereo lamp lit up ranges overlap.



31 MOUNTING DIAGRAM

• Semiconductor Lead Layout

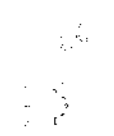
LA4503M



WM2063AM
KA7795F



FMG4
FMV1



2SA812
ESC 52017



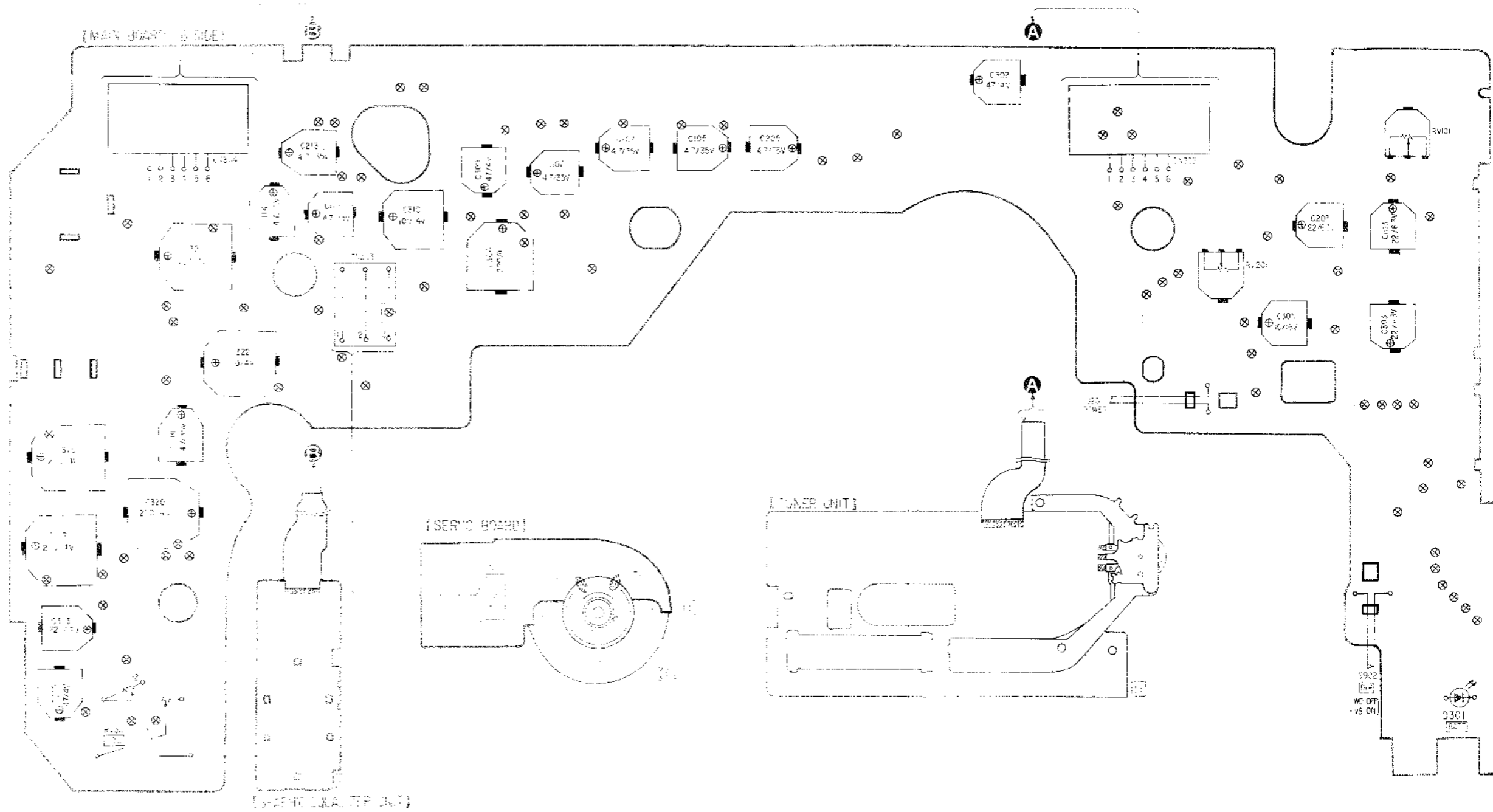
SLB 22VR5



• Semiconductor Location

Ref. No.	Location
Q301	C-12
Q302	C-16
Q303	C-22
Q304	F-28
Q305	D-26
Q306	C-78
Q307	C-26

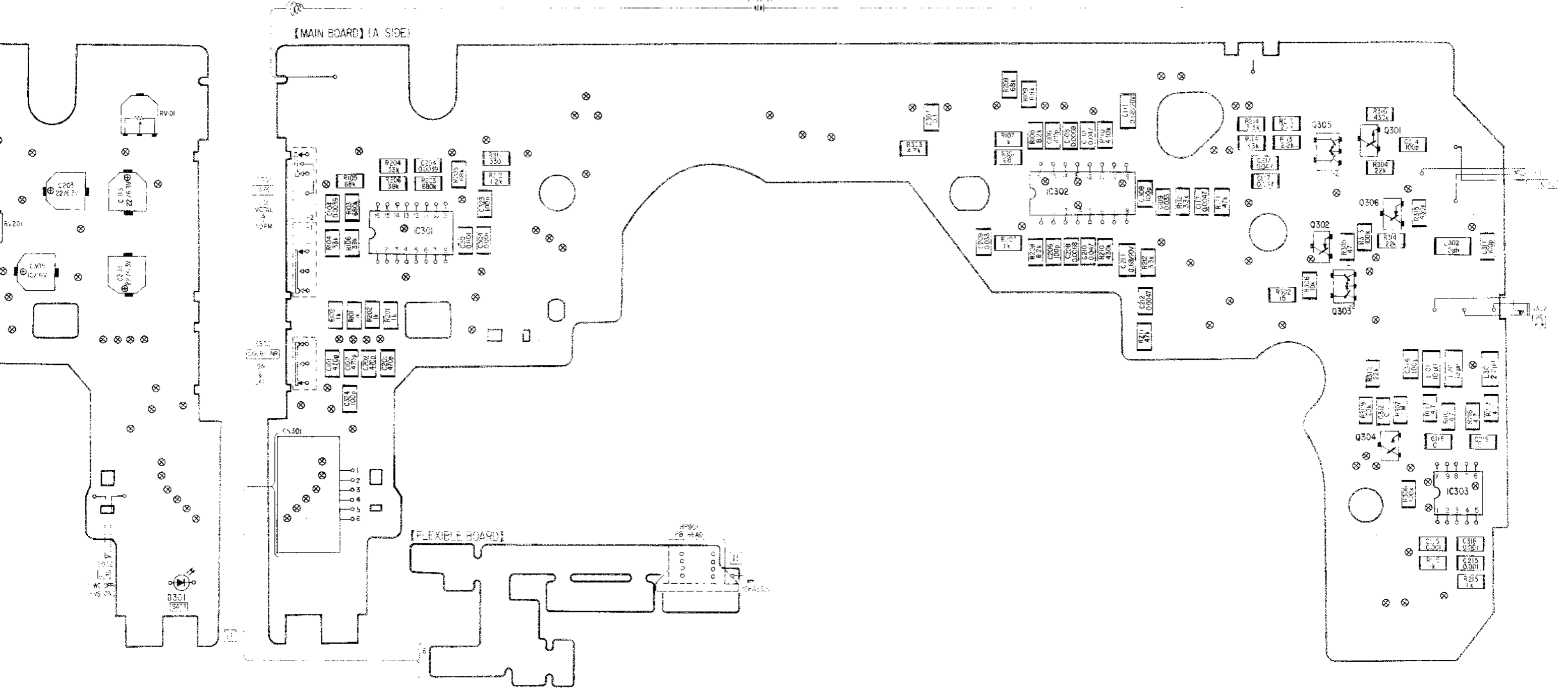
- Through hole
- Lead length 12.7mm (0.5in)



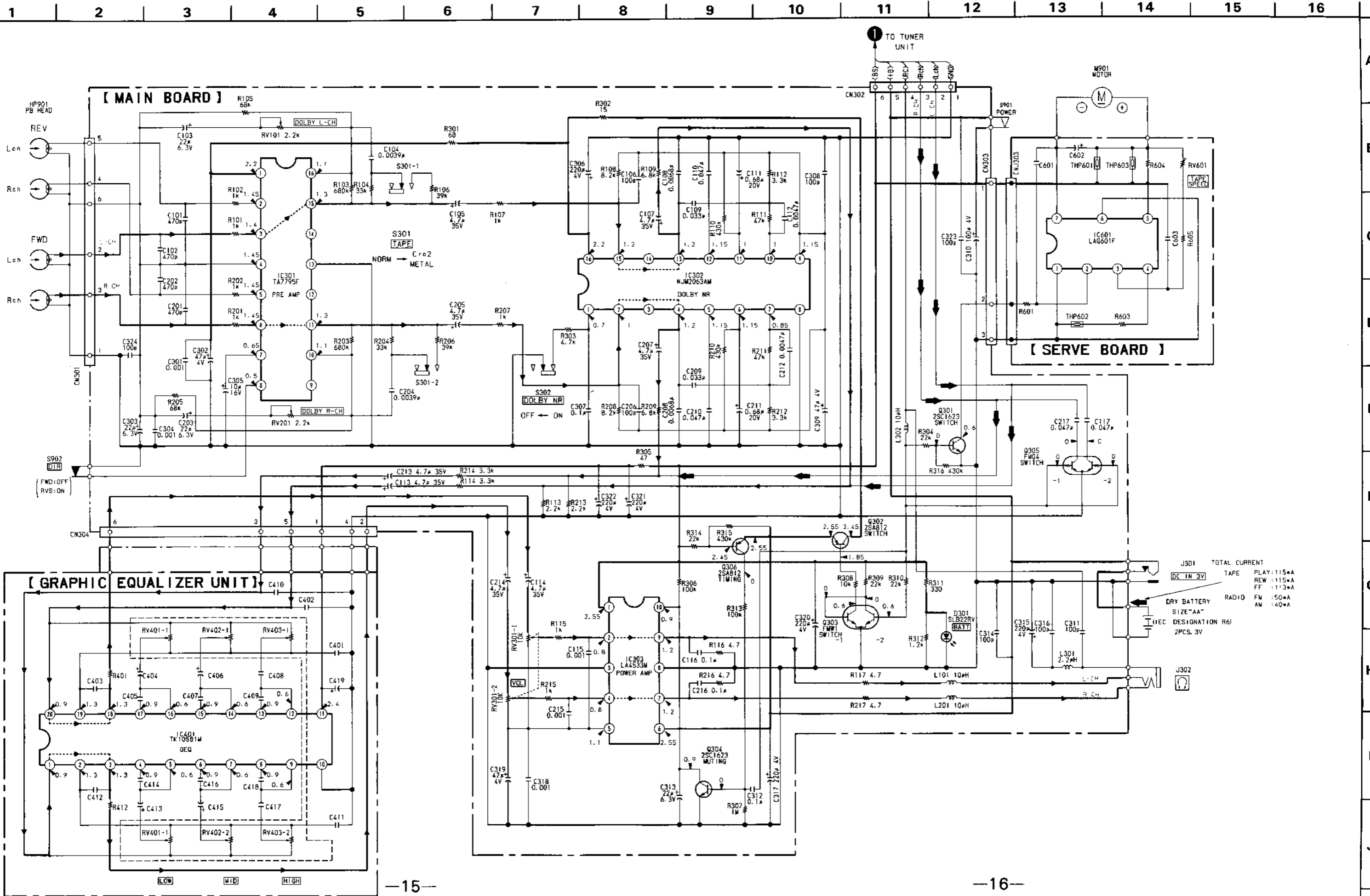
BATTERY
 3.75 AH
 12V (25.5WH/2.1A)
 2-55 25

【MAIN BOARD】(A SIDE)

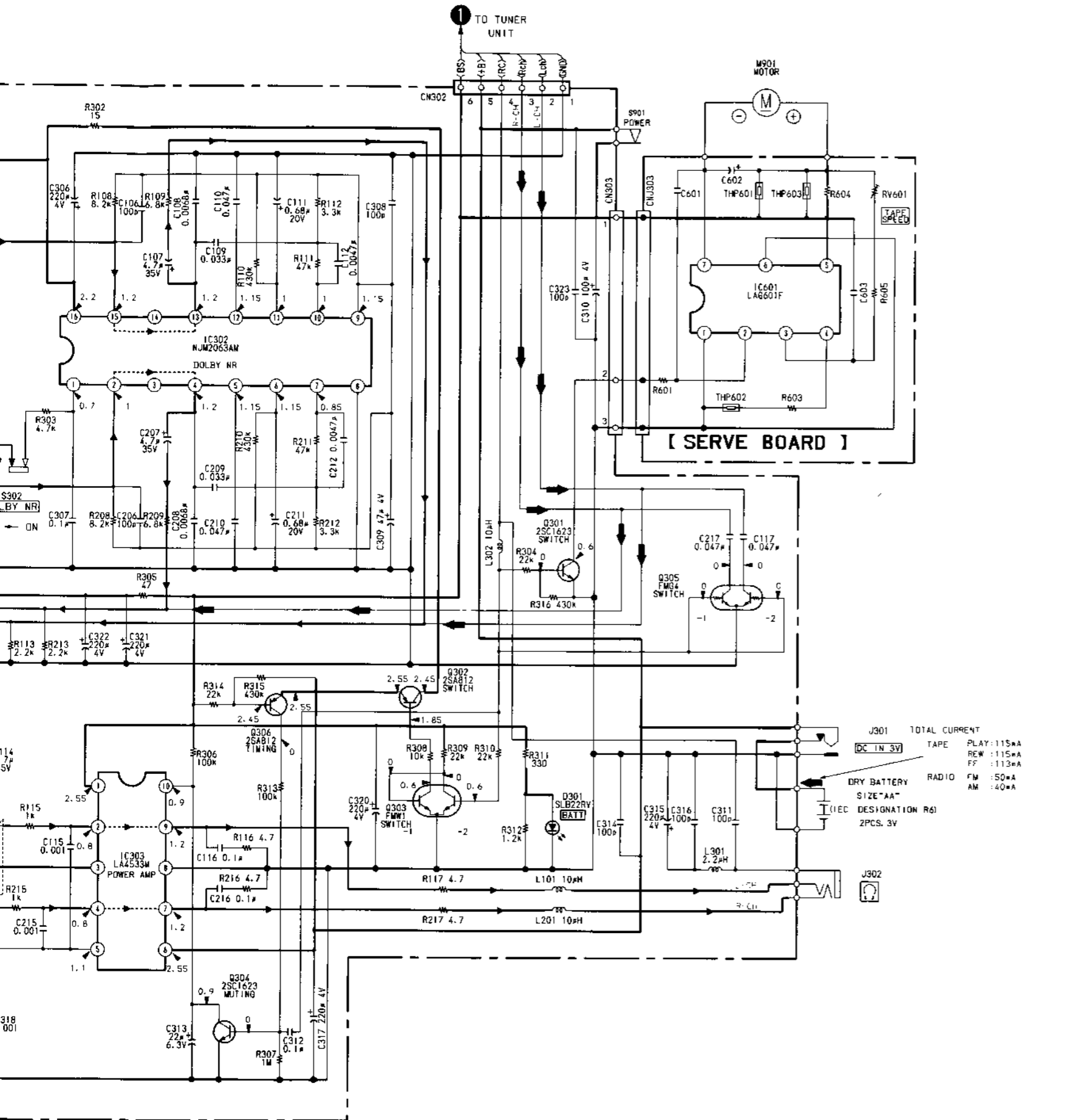
【FLEXIBLE BOARD】



3-2. SCHEMATIC DIAGRAMS

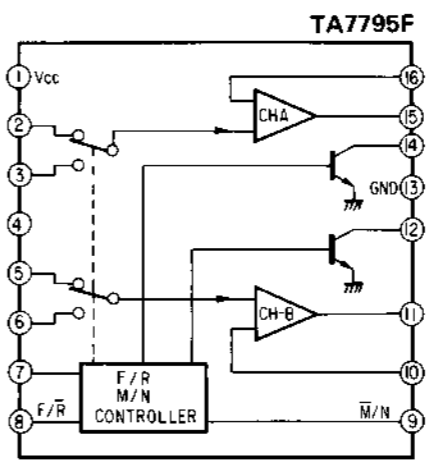


7 8 9 10 11 12 13 14 15 16



A
B
C
D
E
F
G
H
I
J

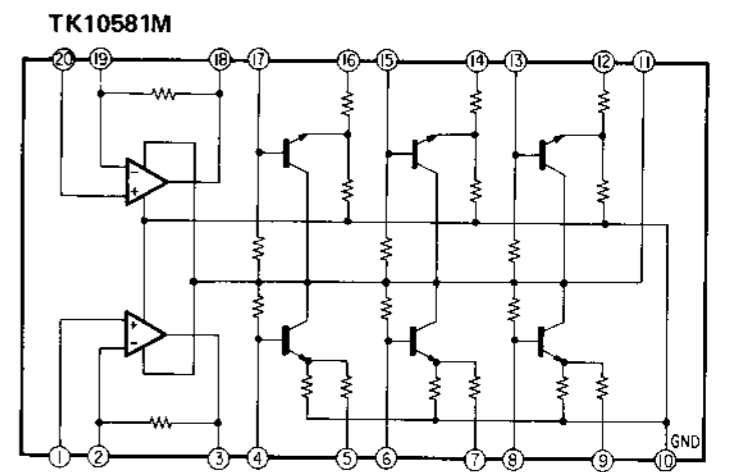
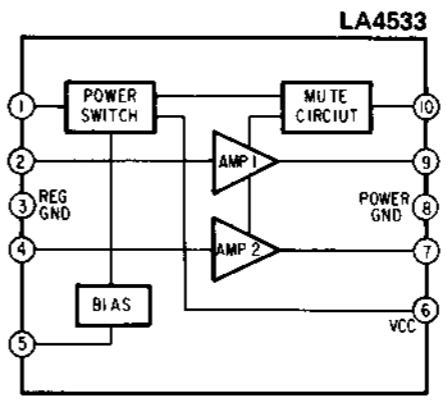
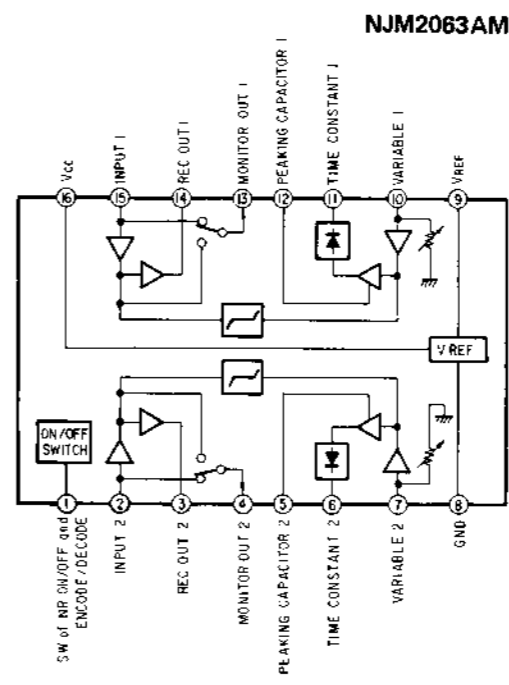
IC BLOCK DIAGRAMS



- Note:**
- All capacitors are in μF unless otherwise noted. $\text{pF} = \mu\mu\text{F}$ 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.
 - Switch

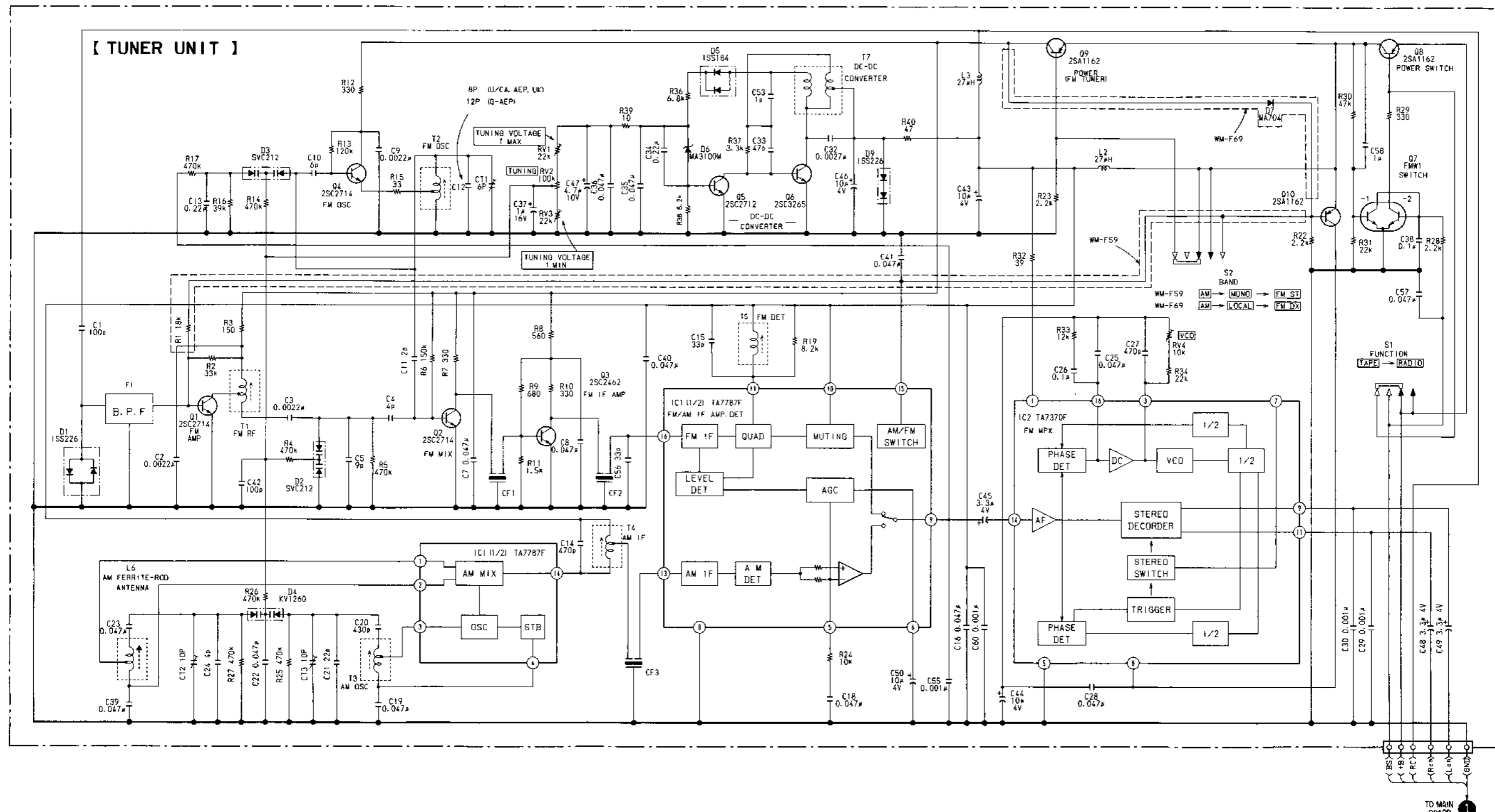
Ref. No.	Switch	Position
S301	TAPE	NORM
S302	DOLBY NR	ON
S901	POWER	OFF
S902	DIRECTION	FWD

- B+ bus.
- adjustment for repair.
- Power voltage is 3V and fed with regulated dc power supply from battery terminal. Voltages are dc with respect to ground in PLAY mode with VOM (DC 50k Ω /V). Voltage variations may be noted due to normal production tolerances.



3.3. TUNER UNIT SCHEMATIC DIAGRAM

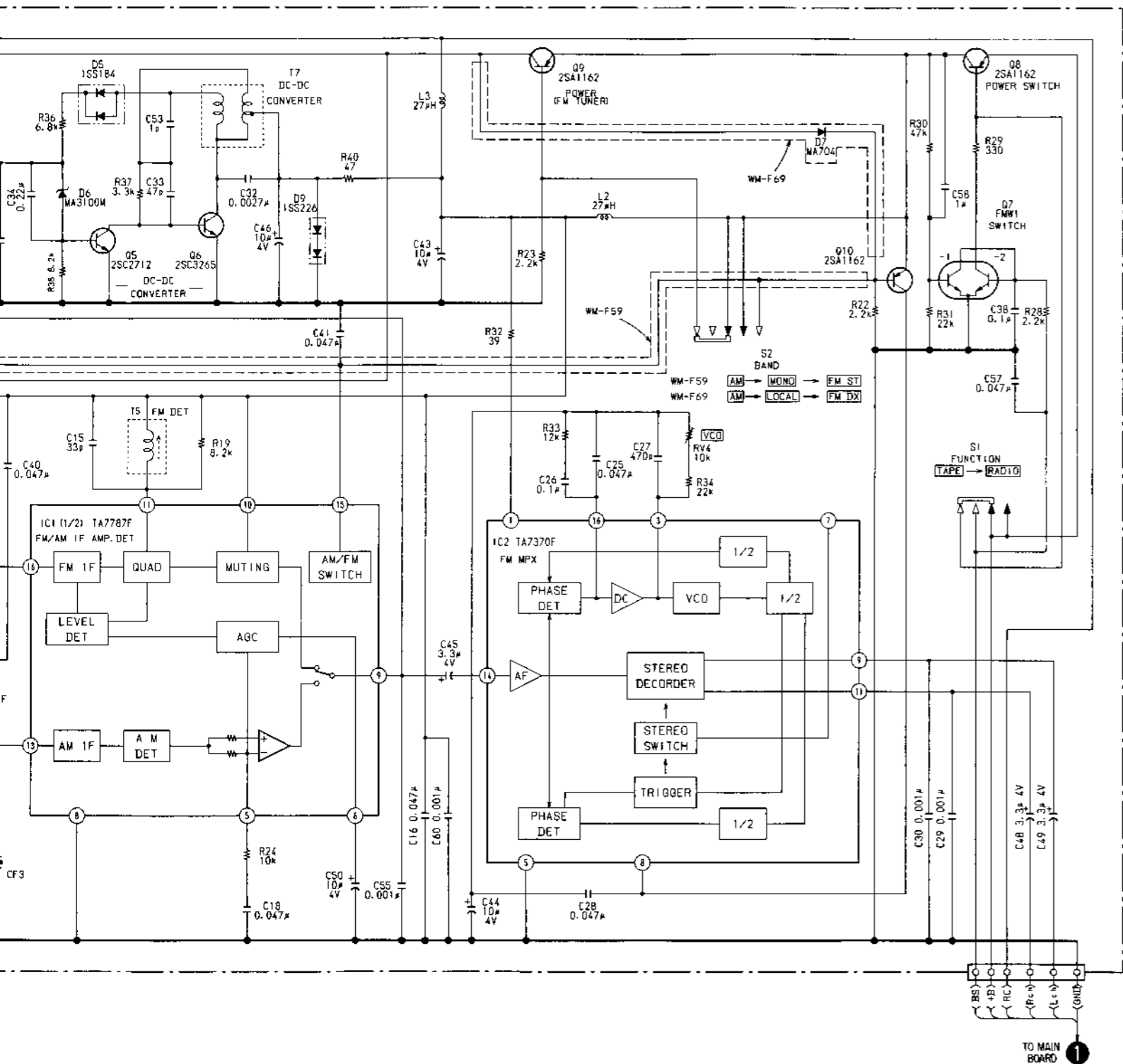
A
B
C
D
E
F
G
H
I
J



NOTE:
 - The numbr supp
 - Item they serv pater

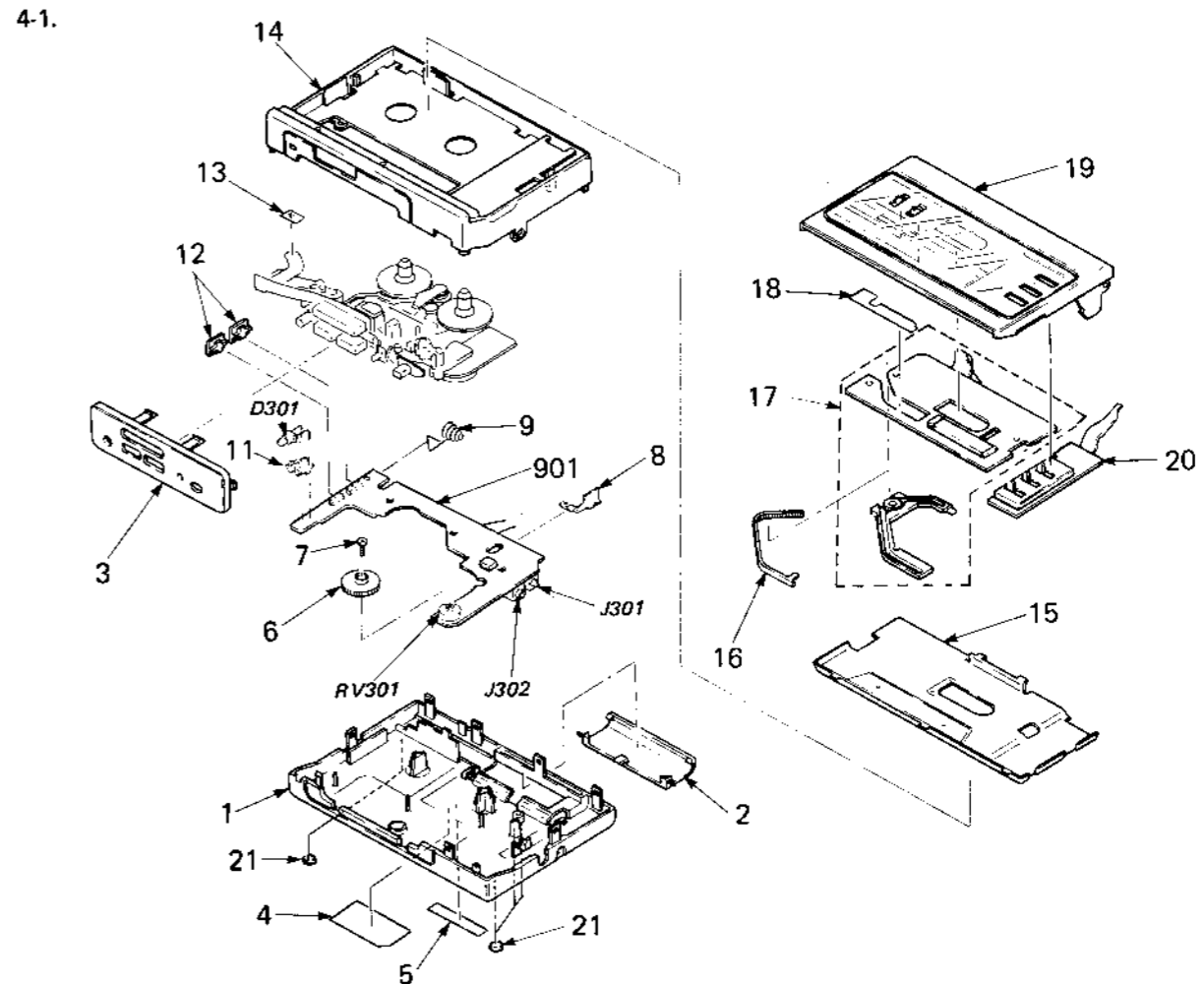
4-1.

No.	Part
1	X-334
	X-335
2	3-34
3	3-34
4	*3-34
5	*3-70
6	3-34
7	3-70
8	3-34
9	3-34
11	*3-34
12	3-34
13	3-83



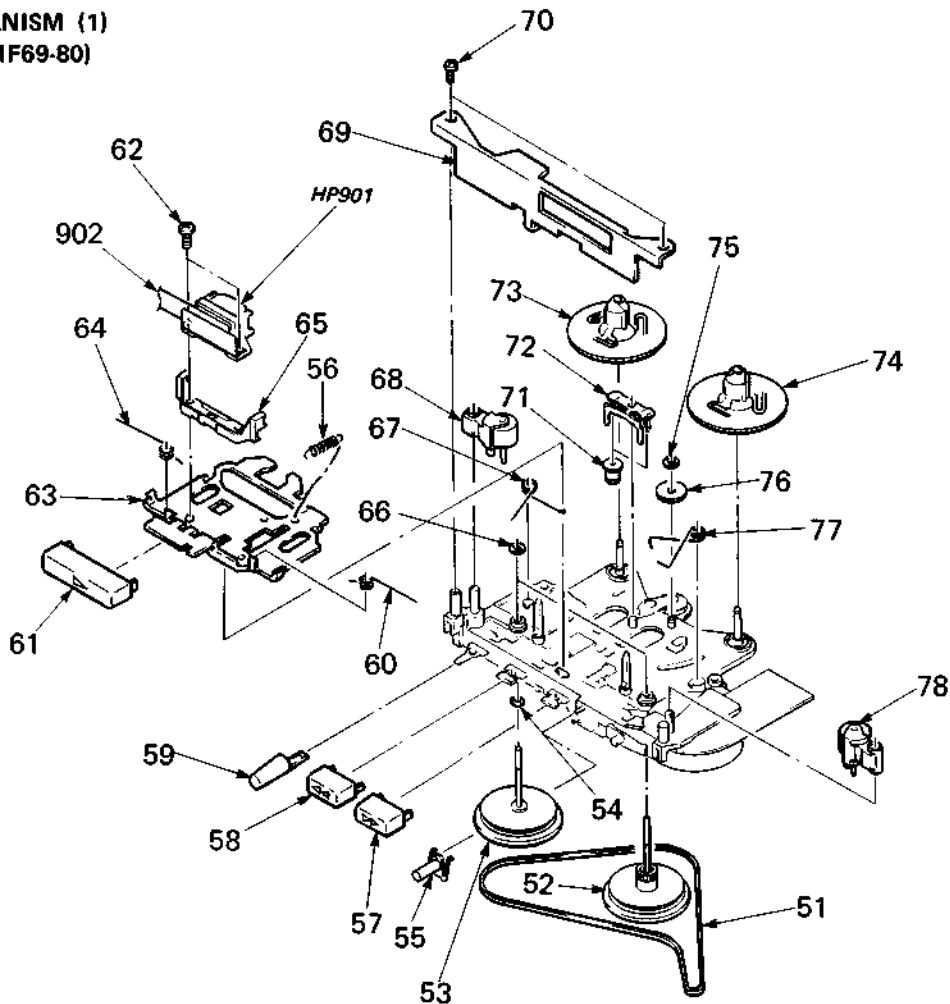
SECTION 4
EXPLODED VIEWS AND PARTS LIST

NOTE:
 • The mechanical parts with no reference number in the exploded views are not supplied.
 • Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
 • The construction parts of an assembled part are indicated with a collation number in the remark column.
 • Color Indication of Appearance Parts
 Example: (RED) KNOB, BALANCE (WHITE)
 Cabinet's Color Parts' Color



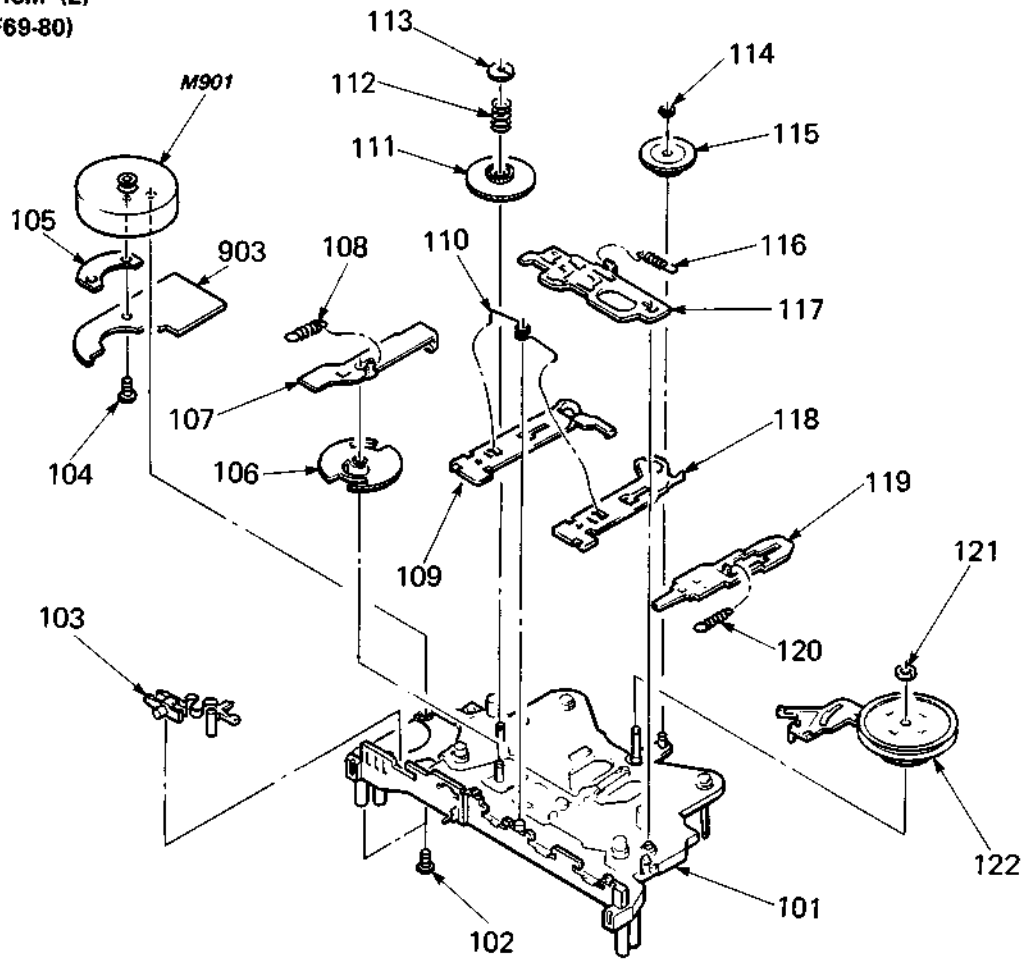
No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	X-3341-907-1	(E,AEP,UK,US,Canadian) ...CABINET (REAR) ASSY		14	X-3341-906-1	CABINET (FRONT) ASSY	
	X-3341-908-1	(G-AEP).....CABINET (REAR) ASSY		15	3-341-968-01	COVER	
2	3-341-966-01	LID, BATTERY CASE		16	3-336-708-01	RACK, POINTER	
3	3-341-967-01	PANEL, CONTROL		17	1-463-895-11	{WM-F69}...TUNER UNIT	
4	*3-341-959-01	LABEL, MODEL NUMBER			1-463-895-21	{G-AEP}...TUNER UNIT	
5	*3-701-999-00	{WM-F69}...LABEL, SERIAL NUMBER			1-463-895-31	{E,AEP}...TUNER UNIT	
6	3-341-964-01	KNOB (VOL)			1-463-895-41	{UK}...TUNER UNIT	
7	3-703-502-41	SCREW		18	*3-339-873-01	SHEET (A)	
8	3-341-954-01	TERMINAL BOARD, BATTERY		19	X-3341-903-1	{WM-F69}.....CABINET (CASSETTE) ASSY	
9	3-341-953-01	SPRING			X-3341-904-1	{E,AEP,UK}...CABINET (CASSETTE) ASSY	
11	*3-341-952-01	HOLDER, LED			X-3341-905-1	{G-AEP}.....CABINET (CASSETTE) ASSY	
12	3-341-965-01	KNOB (D)		20	1-464-843-11	GRAPHIC EQUALIZER UNIT	
13	3-831-441-11	CUSHION (B)		21	*3-342-923-01	PLATE (A), ORNAMENTAL, SCREW	
				901	A-3213-665-A	PC BOARD ASSY, MAIN	
				D301	8-719-946-92	DIODE SLB-22UR3	

4-2. MECHANISM (1)
(MF-WMF69-80)



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	3-341-267-01	BELT, CAPSTAN		66	3-321-483-11	RING, RETAINING	
52	X-3335-635-1	FLYWHEEL (T) ASSY		67	3-341-270-01	SPRING (R)	
53	X-3335-636-1	FLYWHEEL ASSY		68	X-3335-624-1	PINCH LEVER (R) ASSY	
54	3-701-437-11	WASHER (242T),TEFLON		69	3-341-762-01	HOLDER, S	
55	3-341-294-01	BUTTON (DIR)		70	3-893-942-21	SCREW (1.7X5), TAPPING (B)	
56	3-341-271-01	SPRING, TENSION		71	3-341-275-01	GEAR, FR	
57	3-341-962-01	BUTTON (FF)		72	3-341-701-01	LEVER, FR	
58	3-341-963-01	BUTTON (REW)		73	3-341-291-01	GEAR, S REEL	
59	3-341-961-01	BUTTON (STOP)		74	3-341-290-01	GEAR, T REEL	
60	3-341-276-11	SPRING (N)		75	3-341-752-01	WASHER, POLYETHYLENE (t=0.13)	
61	3-341-960-01	BUTTON (PLAY)			3-341-752-11	WASHER, POLYETHYLENE (t=0.25)	
62	3-704-252-21	SCREW (M1.4X3.8)		76	3-341-265-01	GEAR, R	
63	3-341-711-01	LEVER, PLAY		77	3-341-763-01	SPRING	
64	3-341-277-11	SPRING (R)		78	X-3335-623-1	PINCH LEVER (N) ASSY	
65	3-341-702-01	GUIDE, TAPE		HP901	1-543-439-11	HEAD, MAGNETIC (PLAY BACK)	
				902	1-623-643-11	PC BOARD, HEAD FLEXIBLE	

4-3. MECHANISM (2) (MF-WMF69-80)



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
101	A-3163-146-A	CHASSIS ASSY		113	3-311-815-11	WASHER, POLYETHYLENE (t=0.25)	
102	3-335-797-31	SCREW (M1.4X3), TOOTHED LOCK		114	3-570-615-01	WASHER, POLYETHYLENE (t=0.25)	
103	3-341-293-01	LEVER, MODE		115	3-341-266-01	GEAR, T	
104	3-338-625-11	SCREW (M1.4X1.6), WASHER HEAD		116	3-341-272-01	SPRING, TENSION	
105	*3-341-729-01	SPACER, SERVO		117	3-341-298-01	PLATE, LOCK	
106	3-341-292-01	GEAR, CAM		118	3-341-296-01	LEVER, REW	
107	3-341-299-01	LEVER, DIR		119	3-341-297-01	LEVER, STOP	
108	3-341-274-01	SPRING (POWER TENSION), TENSION		120	3-341-273-01	SPRING, TENSION	
109	3-341-295-01	LEVER, FF		121	3-570-615-01	WASHER, POLYETHYLENE (t=0.25)	
110	3-341-268-01	SPRING		122	A-3239-894-A	WHEEL ASSY, MIDWAY	
111	3-341-289-01	GEAR, DECELERATION		903	1-236-042-21	CIRCUIT UNIT, SERVO	
112	3-341-722-01	SPRING, COMPRESSION		M901	1-541-518-11	MOTOR, DC	

SECTION 5 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:μuF.

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...

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
901	A-3213-665-A	PC BOARD ASSY, MAIN			
902	1-623-643-11	PC BOARD, HEAD FLEXIBLE			
903	1-236-042-21	CIRCUIT UNIT, SEAVO			
C101	1-163-133-00	CERAMIC CHIP 470PF	5%	50V	
C102	1-163-133-00	CERAMIC CHIP 470PF	5%	50V	
C103	1-124-778-00	ELECT 22MF	20%	6.3V	
C104	1-163-016-00	CERAMIC CHIP 0.0039MF	5%	50V	
C105	1-126-198-11	ELECT 4.7MF	20%	35V	
C106	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C107	1-126-198-11	ELECT 4.7MF	20%	35V	
C108	1-163-019-00	CERAMIC CHIP 0.0068MF	10%	50V	
C109	1-163-034-00	CERAMIC CHIP 0.033MF	5%	25V	
C110	1-163-035-00	CERAMIC CHIP 0.047MF	10%	25V	
C111	1-135-087-21	TANTAL. CHIP 0.68MF	10%	20V	
C112	1-163-017-00	CERAMIC CHIP 0.0047MF	5%	50V	
C113	1-126-198-11	ELECT 4.7MF	20%	35V	
C114	1-126-198-11	ELECT 4.7MF	20%	35V	
C115	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C116	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C117	1-163-035-00	CERAMIC CHIP 0.047MF	10%	25V	
C201	1-163-133-00	CERAMIC CHIP 470PF	5%	50V	
C202	1-163-133-00	CERAMIC CHIP 470PF	5%	50V	
C203	1-124-778-00	ELECT 22MF	20%	6.3V	
C204	1-163-016-00	CERAMIC CHIP 0.0039MF	5%	50V	
C205	1-126-198-11	ELECT 4.7MF	20%	35V	
C206	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C207	1-126-198-11	ELECT 4.7MF	20%	35V	
C208	1-163-019-00	CERAMIC CHIP 0.0068MF	10%	50V	
C209	1-163-034-00	CERAMIC CHIP 0.033MF	5%	25V	
C210	1-163-035-00	CERAMIC CHIP 0.047MF	10%	25V	
C211	1-135-087-21	TANTAL. CHIP 0.68MF	10%	20V	
C212	1-163-017-00	CERAMIC CHIP 0.0047MF	5%	50V	
C213	1-126-198-11	ELECT 4.7MF	20%	35V	
C214	1-126-198-11	ELECT 4.7MF	20%	35V	
C215	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C216	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C217	1-163-035-00	CERAMIC CHIP 0.047MF	10%	25V	
C301	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C302	1-126-208-11	ELECT 47MF	20%	4V	
C303	1-124-778-00	ELECT 22MF	20%	6.3V	
C304	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C305	1-124-779-00	ELECT 10MF	20%	16V	
C306	1-126-210-11	ELECT 220MF	20%	4V	
C307	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C308	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C309	1-126-208-11	ELECT 47MF	20%	4V	
C310	1-126-209-11	ELECT 100MF	20%	4V	
C311	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	

ELECTRICAL PARTS

Ref.No.	Part No.	Description			
C312	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C313	1-124-778-00	ELECT 22MF	20%	6.3V	
C314	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C315	1-126-210-11	ELECT 220MF	20%	4V	
C316	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C317	1-126-210-11	ELECT 220MF	20%	4V	
C318	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V	
C319	1-126-208-11	ELECT 47MF	20%	4V	
C320	1-126-210-11	ELECT 220MF	20%	4V	
C321	1-126-210-11	ELECT 220MF	20%	4V	
C322	1-126-210-11	ELECT 220MF	20%	4V	
C323	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C324	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
CN301	*1-566-682-11	HOUSING, CONNECTOR 6P			
CN302	*1-566-682-11	HOUSING, CONNECTOR 6P			
CN303	1-566-692-11	SOCKET, CONNECTOR 3P			
CN304	*1-566-682-11	HOUSING, CONNECTOR 6P			
D301	8-719-946-92	DIODE SLB-22VR3			
HP901	1-543-439-11	HEAD, MAGNETIC (PLAY BACK)			
IC301	8-759-208-46	IC TA7795F			
IC302	8-759-701-07	IC NJM2063AM			
IC303	8-759-802-75	IC LA4533M			
J301	1-507-723-00	JACK, EXTENTION POWER			
J302	1-563-316-31	JACK			
L101	1-410-204-41	INDUCTOR CHIP 10UH			
L201	1-410-204-41	INDUCTOR CHIP 10UH			
L301	1-410-196-11	INDUCTOR CHIP 2.2UH			
L302	1-410-204-41	INDUCTOR CHIP 10UH			
M901	1-541-518-11	MOTOR, DC			
Q301	8-729-100-67	TRANSISTOR 2SC1623-L7			
Q302	8-729-100-76	TRANSISTOR 2SA812			
Q303	8-729-903-10	TRANSISTOR FMW1			
Q304	8-729-100-67	TRANSISTOR 2SC1623-L7			
Q305	8-729-902-93	TRANSISTOR FMG4			
Q306	8-729-100-76	TRANSISTOR 2SA812			
R101	1-216-049-00	METAL CHIP 1K	5%	1/10W	
R102	1-216-049-00	METAL CHIP 1K	5%	1/10W	
R103	1-216-117-00	METAL CHIP 680K	5%	1/10W	
R104	1-216-085-00	METAL CHIP 33K	5%	1/10W	
R105	1-216-093-00	METAL CHIP 68K	5%	1/10W	
R106	1-216-748-11	METAL CHIP 39K	5%	1/10W	
R107	1-216-049-00	METAL CHIP 1K	5%	1/10W	
R108	1-216-071-00	METAL CHIP 8.2K	5%	1/10W	
R109	1-216-069-00	METAL CHIP 6.8K	5%	1/10W	

ELECTRICAL PARTS

Ref.No.	Part No.	Description				
R110	1-216-112-00	METAL CHIP	430K	5%	1/10W	
R111	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R112	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R113	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R114	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R115	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R116	1-216-308-00	METAL CHIP	4.7	5%	1/10W	
R117	1-216-308-00	METAL CHIP	4.7	5%	1/10W	
R201	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R202	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R203	1-216-117-00	METAL CHIP	680K	5%	1/10W	
R204	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R205	1-216-093-00	METAL CHIP	68K	5%	1/10W	
R206	1-216-748-11	METAL CHIP	39K	5%	1/10W	
R207	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R208	1-216-071-00	METAL CHIP	8.2K	5%	1/10W	
R209	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R210	1-216-112-00	METAL CHIP	430K	5%	1/10W	
R211	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R212	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R213	1-216-057-00	METAL CHIP	2.2K	5%	1/10W	
R214	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R215	1-216-049-00	METAL CHIP	1K	5%	1/10W	
R216	1-216-308-00	METAL CHIP	4.7	5%	1/10W	
R217	1-216-308-00	METAL CHIP	4.7	5%	1/10W	
R301	1-216-021-00	METAL CHIP	68	5%	1/10W	
R302	1-216-005-00	METAL CHIP	15	5%	1/10W	
R303	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R304	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R305	1-216-017-00	METAL CHIP	47	5%	1/10W	
R306	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R307	1-216-121-00	METAL CHIP	1M	5%	1/10W	
R308	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R309	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R310	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R311	1-216-037-00	METAL CHIP	330	5%	1/10W	
R312	1-216-051-00	METAL CHIP	1.2K	5%	1/10W	
R313	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R314	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R315	1-216-112-00	METAL CHIP	430K	5%	1/10W	
R316	1-216-112-00	METAL CHIP	430K	5%	1/10W	
RV101	1-237-848-11	RES, ADJ, CERMET	2.2K			
RV201	1-237-848-11	RES, ADJ, CERMET	2.2K			
RV301	1-230-485-21	RES, VAR, CARBON	10K/10K			

ELECTRICAL PARTS

Ref.No.	Part No.	Description
S301	1-570-087-11	SWITCH, SLIDE (TAPE)
S302	1-554-669-00	SWITCH, SLIDE (DOLBY NR)
S901	1-571-149-11	SWITCH, LEAF (POWER)
S902	1-571-149-11	SWITCH, LEAF (DIR)

ACCESSORY & PACKING MATERIAL

Part No.	Description
3-341-754-01	CUSHION (LOWER)
3-341-755-01	CARDBOARD
3-341-756-01	(US).....INDIVIDUAL CARTON
3-341-758-01	(Canadian).....INDIVIDUAL CARTON
3-341-972-01	(UK,AEP,G-AEP)...INDIVIDUAL CARTON
3-341-974-01	(E).....INDIVIDUAL CARTON
3-342-930-01	STOPPER
3-764-193-11	(E).....INSTRUCTION
*3-764-464-01	(AEP).....INSTRUCTION
3-769-323-11	(WM-F59).....MANUAL, INSTRUCTION
3-769-323-21	(WM-F69).....MANUAL, INSTRUCTION
3-769-323-31	(Canadian).....MANUAL, INSTRUCTION
3-769-323-41	(AEP,G-AEP)...MANUAL, INSTRUCTION
3-795-748-21	(US)...SAFETY INSTRUCTIONS, HEADPHONE
8-952-260-91	(AEP,G-AEP,UK)...HEADPHONE MDR-W10L/B SET
8-952-268-99	(WM-F69).....HEADPHONE MDR-010L/EX SET
8-952-321-90	(E).....HEADPHONE MDR-E434/B SET
X-3334-010-1	CASE ASSY, CARRYING

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