

WM-BF25

SERVICE MANUAL

West German Model



Model Name Using Similer Mechanism	WM-31/41
Tape Transport Mechanism Type	MF-WMBF25-04

SPECIFICATIONS

Frequency range	FM: 87.6 - 107 MHz AM: 531-1,602 kHz
Frequency response	40 - 15,000 Hz
Power output	10 mW + 10 mW at DC operation (at 10% harmonic distortion) load impedance 32 ohms
Power requirements	3 V DC Two R6 (size AA) batteries Sony rechargeable battery BP-700 DC IN 3V jack accepts optional Sony AC-D2L AC power adaptor for use on 220 V AC, 50 Hz
Battery life	Approx. 8 hours on tape playback and approx. 30 hours on FM reception using Sony alkaline batteries AM3 (N)
Dimensions	Approx. 88 x 134 x 31.5 mm (w/td) projecting parts and controls
Weight	Approx. 230 g incl. batteries, not incl. other accessories
Accessories supplied	Stereo headphones (open-air type, 1) Battery charger (1)

Design and specifications subject to change without notice.

Rechargeable battery (BP-700)	Battery charger (BC-700)	Dolby NR* System
Optional	Optional	provided


Optional Accessories

AC power adaptor AC-D2L
Car battery cord DOC-70
Battery case EBP-600B
Rechargeable battery BP-700
Battery charger BC-700
Stereo active speaker system SRS-30, SRS-50

Note

If an AC power adaptor or a car battery cord not manufactured by Sony is used, a fuse must be installed in the AC power adaptor or the car battery cord and the polarity of the plug must be as illustrated.



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RADIO CASSETTE PLAYER
SONY



Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on chip component replacement

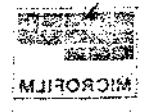
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

JANUARY 1992

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Model	Part No.	Description	Quantity	Remarks
WM-BF25	1-200000-00	Power Transformer	1	
WM-BF25	1-200001-00	Rectifier Diode	2	
WM-BF25	1-200002-00	Filter Capacitor	1	
WM-BF25	1-200003-00	Resistor	1	
WM-BF25	1-200004-00	Capacitor	1	
WM-BF25	1-200005-00	Diode	1	
WM-BF25	1-200006-00	IC	1	
WM-BF25	1-200007-00	IC	1	
WM-BF25	1-200008-00	IC	1	
WM-BF25	1-200009-00	IC	1	
WM-BF25	1-200010-00	IC	1	
WM-BF25	1-200011-00	IC	1	
WM-BF25	1-200012-00	IC	1	
WM-BF25	1-200013-00	IC	1	
WM-BF25	1-200014-00	IC	1	
WM-BF25	1-200015-00	IC	1	
WM-BF25	1-200016-00	IC	1	
WM-BF25	1-200017-00	IC	1	
WM-BF25	1-200018-00	IC	1	
WM-BF25	1-200019-00	IC	1	
WM-BF25	1-200020-00	IC	1	
WM-BF25	1-200021-00	IC	1	
WM-BF25	1-200022-00	IC	1	
WM-BF25	1-200023-00	IC	1	
WM-BF25	1-200024-00	IC	1	
WM-BF25	1-200025-00	IC	1	
WM-BF25	1-200026-00	IC	1	
WM-BF25	1-200027-00	IC	1	
WM-BF25	1-200028-00	IC	1	
WM-BF25	1-200029-00	IC	1	
WM-BF25	1-200030-00	IC	1	
WM-BF25	1-200031-00	IC	1	
WM-BF25	1-200032-00	IC	1	
WM-BF25	1-200033-00	IC	1	
WM-BF25	1-200034-00	IC	1	
WM-BF25	1-200035-00	IC	1	
WM-BF25	1-200036-00	IC	1	
WM-BF25	1-200037-00	IC	1	
WM-BF25	1-200038-00	IC	1	
WM-BF25	1-200039-00	IC	1	
WM-BF25	1-200040-00	IC	1	
WM-BF25	1-200041-00	IC	1	
WM-BF25	1-200042-00	IC	1	
WM-BF25	1-200043-00	IC	1	
WM-BF25	1-200044-00	IC	1	
WM-BF25	1-200045-00	IC	1	
WM-BF25	1-200046-00	IC	1	
WM-BF25	1-200047-00	IC	1	
WM-BF25	1-200048-00	IC	1	
WM-BF25	1-200049-00	IC	1	
WM-BF25	1-200050-00	IC	1	
WM-BF25	1-200051-00	IC	1	
WM-BF25	1-200052-00	IC	1	
WM-BF25	1-200053-00	IC	1	
WM-BF25	1-200054-00	IC	1	
WM-BF25	1-200055-00	IC	1	
WM-BF25	1-200056-00	IC	1	
WM-BF25	1-200057-00	IC	1	
WM-BF25	1-200058-00	IC	1	
WM-BF25	1-200059-00	IC	1	
WM-BF25	1-200060-00	IC	1	
WM-BF25	1-200061-00	IC	1	
WM-BF25	1-200062-00	IC	1	
WM-BF25	1-200063-00	IC	1	
WM-BF25	1-200064-00	IC	1	
WM-BF25	1-200065-00	IC	1	
WM-BF25	1-200066-00	IC	1	
WM-BF25	1-200067-00	IC	1	
WM-BF25	1-200068-00	IC	1	
WM-BF25	1-200069-00	IC	1	
WM-BF25	1-200070-00	IC	1	
WM-BF25	1-200071-00	IC	1	
WM-BF25	1-200072-00	IC	1	
WM-BF25	1-200073-00	IC	1	
WM-BF25	1-200074-00	IC	1	
WM-BF25	1-200075-00	IC	1	
WM-BF25	1-200076-00	IC	1	
WM-BF25	1-200077-00	IC	1	
WM-BF25	1-200078-00	IC	1	
WM-BF25	1-200079-00	IC	1	
WM-BF25	1-200080-00	IC	1	
WM-BF25	1-200081-00	IC	1	
WM-BF25	1-200082-00	IC	1	
WM-BF25	1-200083-00	IC	1	
WM-BF25	1-200084-00	IC	1	
WM-BF25	1-200085-00	IC	1	
WM-BF25	1-200086-00	IC	1	
WM-BF25	1-200087-00	IC	1	
WM-BF25	1-200088-00	IC	1	
WM-BF25	1-200089-00	IC	1	
WM-BF25	1-200090-00	IC	1	
WM-BF25	1-200091-00	IC	1	
WM-BF25	1-200092-00	IC	1	
WM-BF25	1-200093-00	IC	1	
WM-BF25	1-200094-00	IC	1	
WM-BF25	1-200095-00	IC	1	
WM-BF25	1-200096-00	IC	1	
WM-BF25	1-200097-00	IC	1	
WM-BF25	1-200098-00	IC	1	
WM-BF25	1-200099-00	IC	1	
WM-BF25	1-200100-00	IC	1	

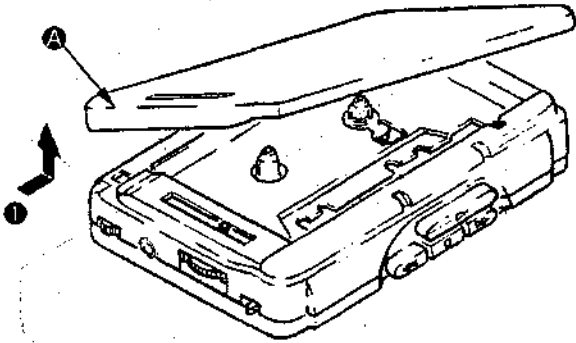
SONY
VIDEO CASSETTE PLAYER



SECTION 1 DISASSEMBLY AND INSTALLATION

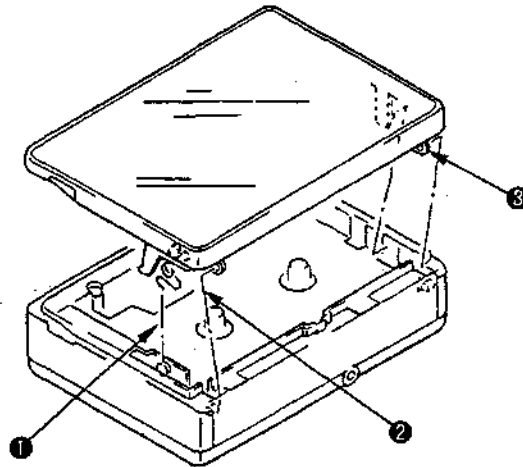
1-1. CASSET HOLDER ASSY REMOVAL

- 1) Open the cassette holder.
- 2) Move the left latch in the direction of the arrow **1** to release it.
- 3) Release the right latch.
- 4) Remove the cassette up spring.



1-3. CASSET HOLDER ASSY INSTALLATION

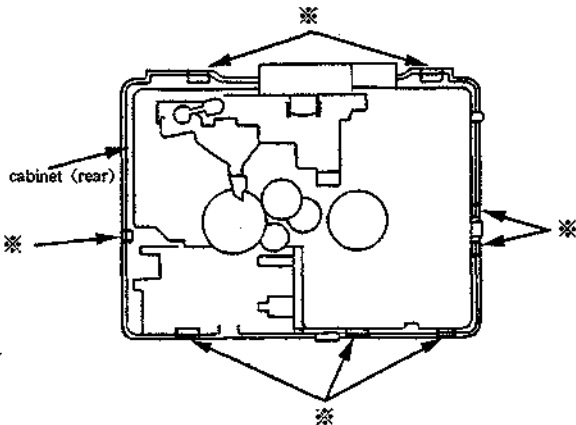
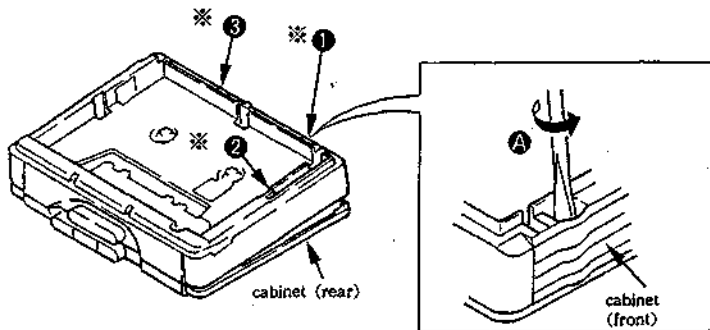
Note: Follow the disassembly procedure the numerical order given.



1-2. CABINET (REAR) ASSY REMOVAL

Note: Follow the disassembly procedure the numerical order given.

- 1) Insert a driver (-) in to the portion (*).
- 2) Move the driver in the direction of the arrow **A**.
- 3) Release the claw (*).



SECTION 2 MECHANICAL AND ELECTRICAL AJUSTMENTS

MECHANICAL ADJUSTMENTS

PRECAUTION

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

playback head	pinch roller
capstan	idlers
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 unless otherwise noted.

Torque Measurement

Torque	Meter Reading	Torque Meter
Foward	22-45g · cm (0.31-0.63oz · inch)	CQ-102C
Fast Forward and Rewind	55-150g · cm (0.77-2.1oz · inch)	CQ-201B
Back Tension	1-2.5g · cm (0.014-0.35oz · inch)	CQ-102C

Tape Tension Measurement

Meter	Meter Reading
CQ-403A	more than 90g (1.26oz)

ELECTRICAL ADJUSTMENTS

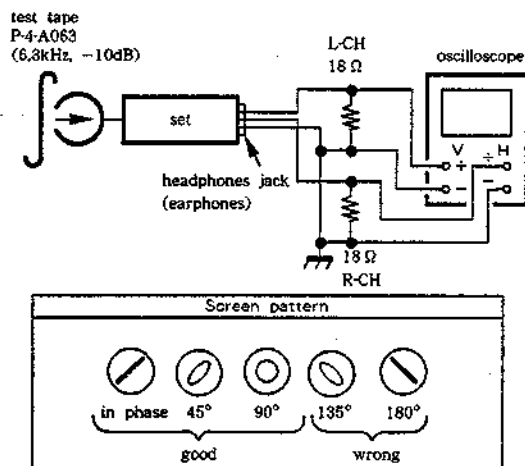
CASSETTE SECTION

Playback Head Phase Check

Note :When replacing the head, check the both L-ch and R-ch phases.

Procedure :

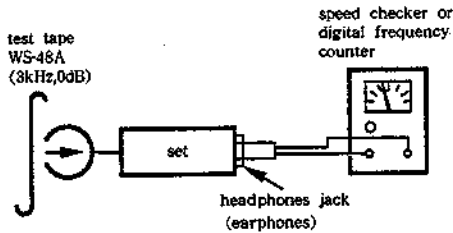
- Phase Check
- Mode : playback



Tape Speed Adjustment

Procedure :

Mode : playback

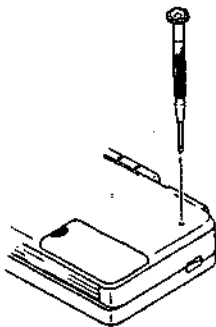


Specification :

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

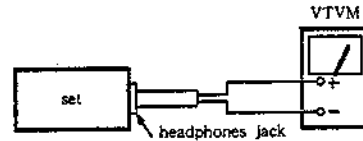
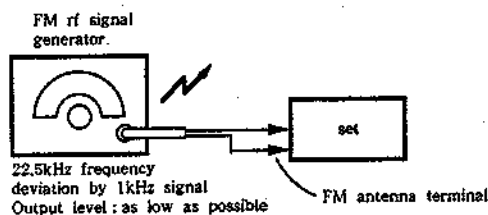
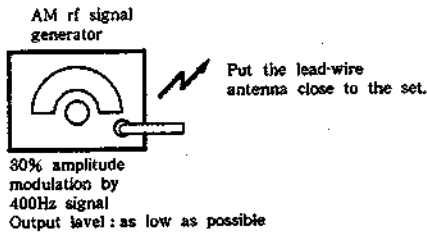
Frequency difference between the beginning and the end of the tape should be within ±2.5% (±75%Hz).

Adjustment Location



ELECTRICAL ADJUSTMENTS

TUNER SECTION



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

FM Frequency Coverage Adjustment

Pointer position	SG frequency	Adjustment part	
f minimum	87.35MHz	L3	maximum
f maximum	107.8MHz	CT3	maximum

FM Tracking Adjustment

SG and set frequency	Adjustment part	Reading on VTVM
87.35MHz	L2	maximum
107.8MHz	CT2	maximum

MW Frequency Coverage Adjustment

Pointer position	SG frequency	Adjustment part	Reading on VTVM
f minimum	516.5kHz	L4	maximum
f maximum	1,631.5kHz	CT4	

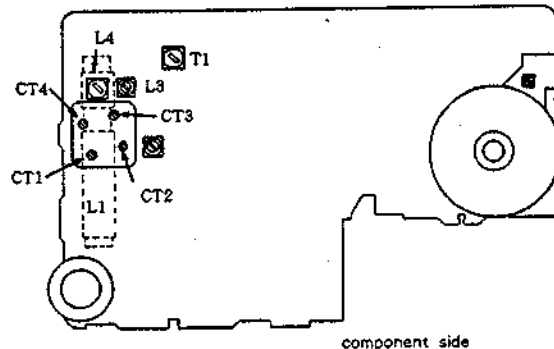
MW Tracking Adjustment

SG and set frequency	Adjustment part	Reading on VTVM
620kHz	L1	maximum
1,400kHz	CT1	

MW IF Alignment

SG and set frequency	Adjustment part	Reading on VTVM
455kHz	T1	maximum

ADJUSTMENT LOCATION



Note :
BAND SW at STEREO.

SECTION 3 DIAGRAMS

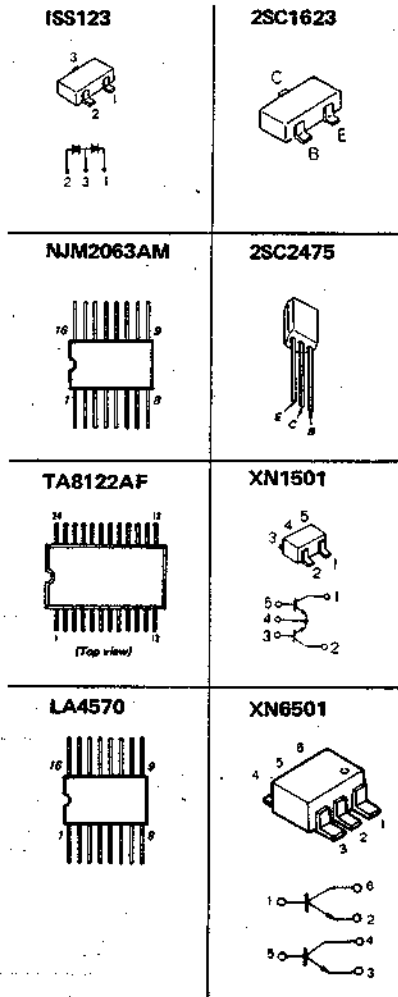
Note:

- ○ — : parts extracted from the component side.
- ● — : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.
- □ : indicates side identified with part number.
- ⊗ : Through hole.
- [Pattern] : Pattern on the side which is seen.
- [Pattern] : Chip components extracted from the rear side.
- [Pattern] : Pattern of the rear side.
- □ : Printed resistor from the rear side.

Semiconductor Location

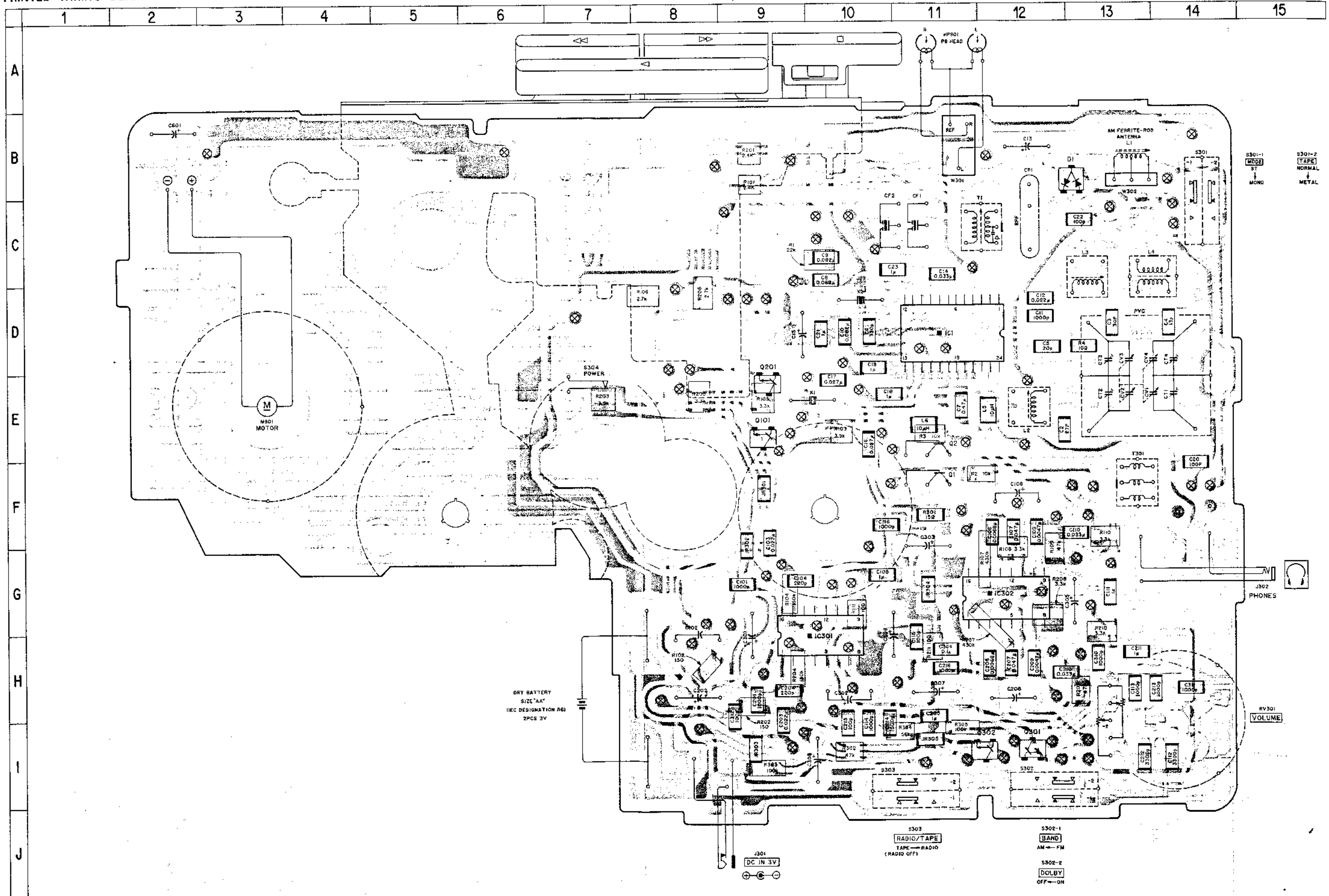
Ref.No	Location
IC1	D-11
IC301	H-9
IC302	G-12
Q1	F-11
Q2	E-11
Q101	E-9
Q201	E-9
Q301	I-12
Q302	I-11
D1	B-12

Semiconductor Lead Layouts



WM-BF25 WM-BF25

PRINTED WIRING BOARD



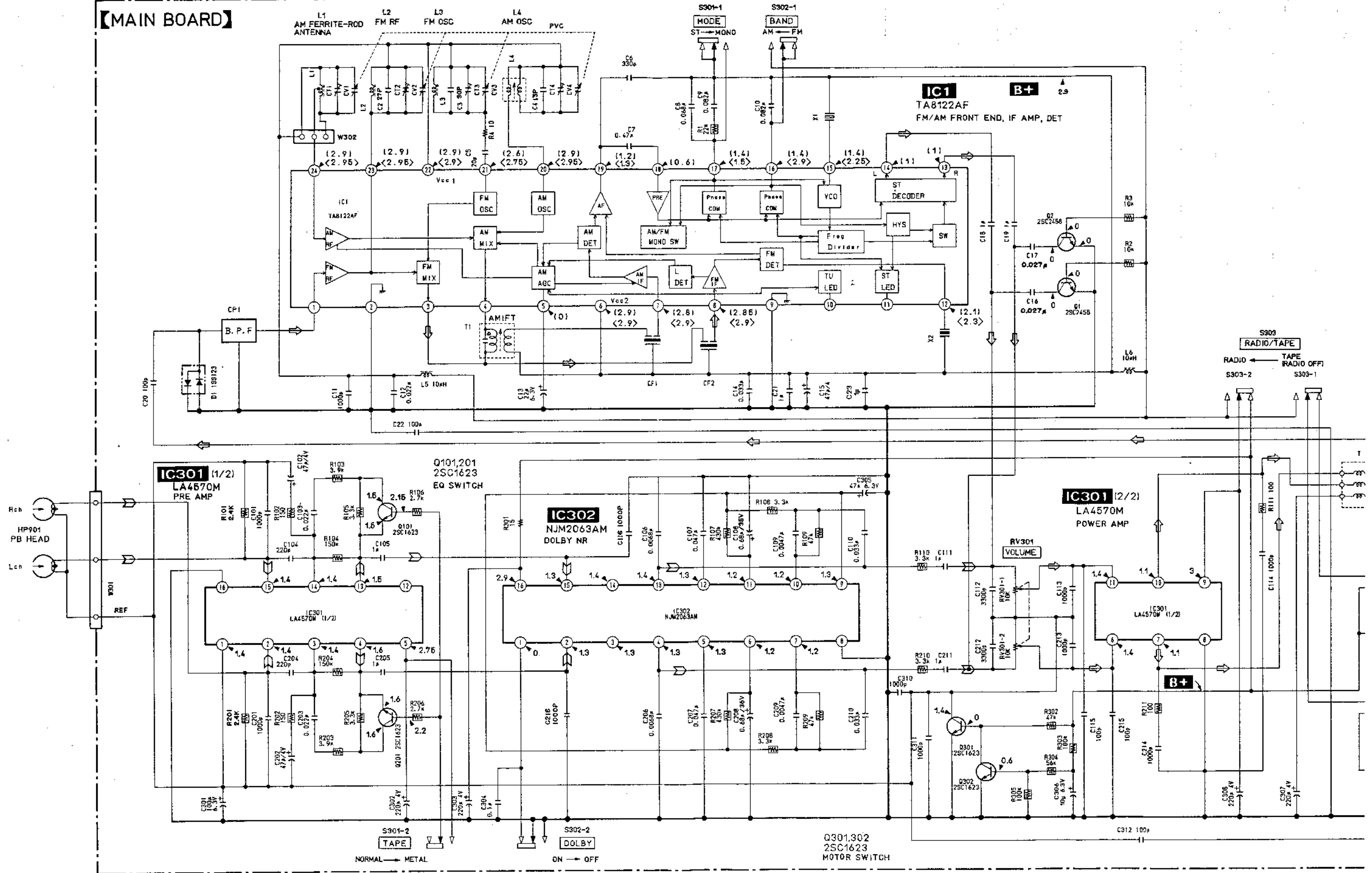
WM-BF25 WM-BF25

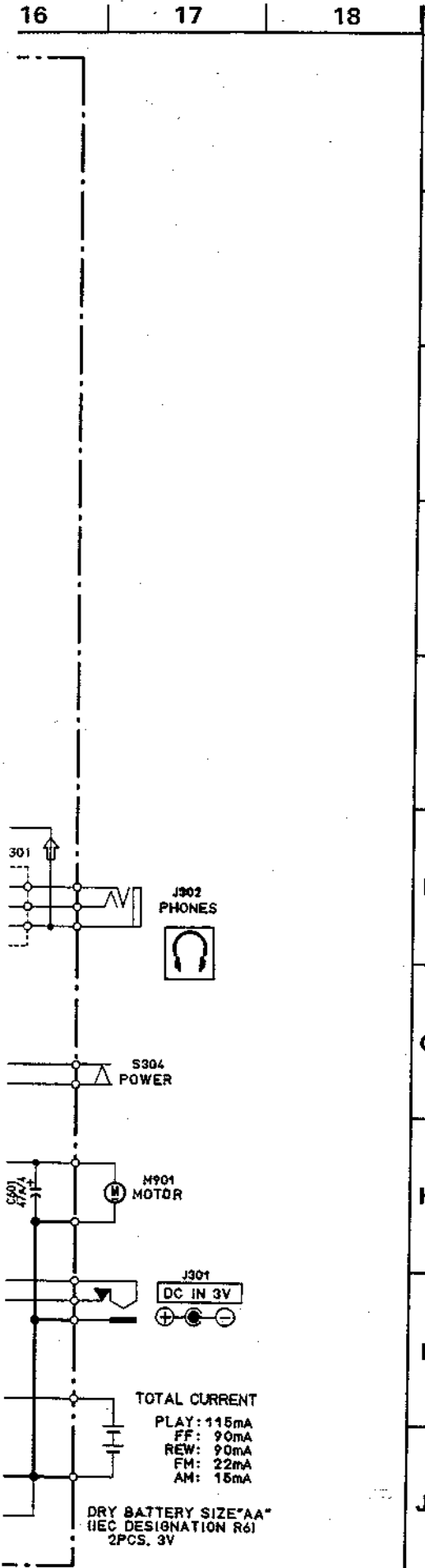
SCHEMATIC DIAGRAM

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

[MAIN BOARD]

A
B
C
D
E
F
G
H
I
J





Notes:

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

- \triangle : internal component.

- \square : printed resistor.

- Switch

Ref. No.	Switch	Position
S301	MODE/TAPE	ST/NORMAL
S302	BAND/DOLBY	FM/ON
S303	RADIO/TAPE	TAPE
S304	POWER	OFF

- **B+** : B+ Line

- Total current is measured with no cassette installed.

- Power voltage is dc 3V and fed with required dc power supply from external power voltage jack.

- Voltage and waveforms are dc with respect to ground under no-signal conditions.

RADIO : detuned

TAPE : in playback mode

no mark: PLAY

() : FM

< > : AM

- Voltages are taken with a VOM (50 $\text{k}\Omega/\text{V}$).

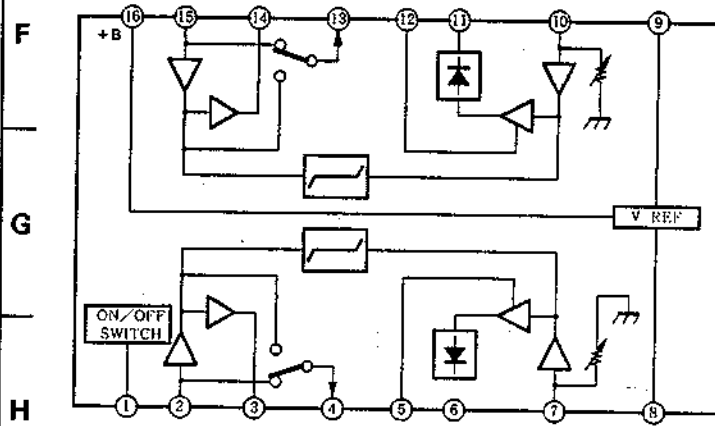
Voltage variations may be noted due to normal production tolerances.

- Signal path.

\Rightarrow : FM Σ : PB (DECK A)

IC BLOCK DIAGRAMS

NJM-2063AM



SECTION 4 EXPLODED VIEWS

NOTE:

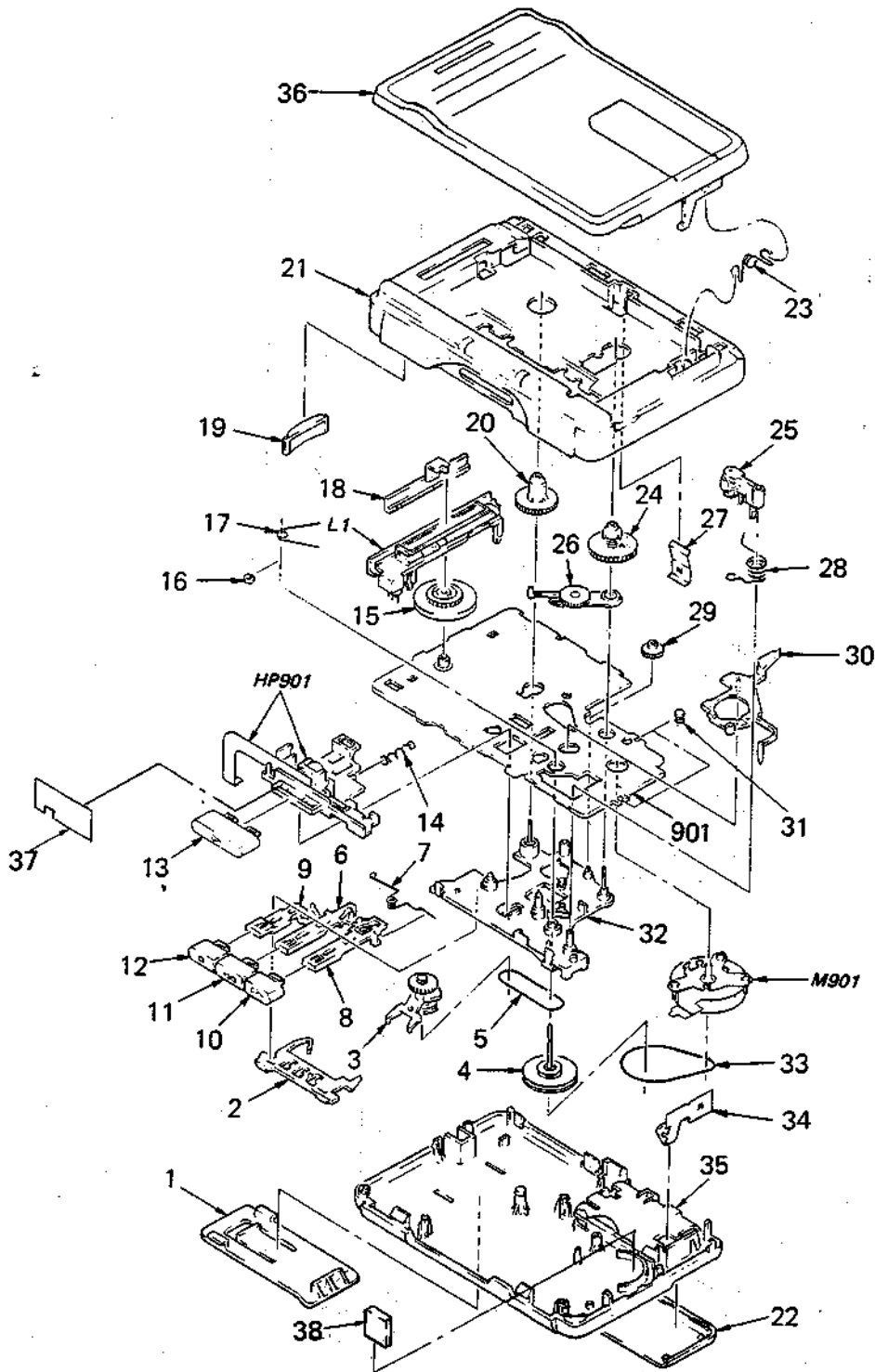
- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts
Example:

(RED) ... KNOB, BALANCE (WHITE)
 ↑ Cabinet's Color ↑ Parts Color

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

(1)



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	3-346-518-01	CLIP, BELT		21	3-346-721-71	CABINET (FRONT) (CF-A2)	
2	3-346-522-01	PLATE, LOCK		22	3-346-517-01	LID, BATTERY CASE	
3	X-3346-503-1	GEAR ASSY, MIDWAY		23	3-346-509-01	SPRING	
4	X-3346-505-1	WHEEL ASSY, CAPSTAN		24	X-3346-502-1	TABLE ASSY, T REEL	
5	3-335-604-01	BELT, MIDWAY		25	X-3334-005-1	PINCH ROLLER ASSY	
6	3-346-527-01	LEVER (REW)		26	X-3346-504-1	GEAR ASSY, PLAY	
7	3-346-539-01	SPRING (FR)		27	3-346-516-01	SPRING	
8	3-346-526-02	LEVER (FF)		28	3-335-608-01	SPRING	
9	3-346-528-01	LEVER (STOP)		29	3-334-089-01	GEAR, FF	
10	3-346-513-11	BUTTON (FF)		30	3-346-523-01	LEVER (SHUT-OFF)	
11	3-346-514-11	BUTTON (REW)		31	3-335-652-01	CUSHION (C), MOTOR	
12	3-346-515-11	BUTTON (STOP)		32	X-3346-501-2	BASE ASSY, GUIDE	
13	3-346-512-11	BUTTON (PLAY)		33	3-335-603-11	BELT, CAPSTAN	
14	3-335-605-01	SPRING, COMPRESSION		34	3-334-057-01	TERMINAL BOARD, RELAY	
15	3-346-502-01	KNOB (TU)		35	3-346-506-41	CABINET (REAR) (CF-C)	
16	3-343-358-01	RING, RETAINING		36	X-3346-559-1	HOLDER ASSY (CF-C), CASSETTE	
17	3-346-538-01	SPRING (GROUND)		37	*3-347-177-01	SPACER (HI)	
18	3-346-503-01	POINTER		38	9-911-841-XX	CUSHION (B), MICROPHONE	
19	3-346-504-01	COVER, KNOB		901	A-3015-660-A	PC BOARD ASSY, MAIN	
20	3-346-525-01	GEAR (S REEL)		L1	I-402-361-11	ANTENNA, FERRITE-ROD (AM)	
				HP901	A-3108-292-A	PC BOARD ASSY, HEAD	
				M901	I-541-572-11	MOTOR, DC	

SECTION 5

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:MF: μ F, PF: μ MF.**RESISTORS**

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORSIn each case, U: μ , for example:UA...: μ A..., UPA...: μ PA...,UPC...: μ PC, UPD...: μ PD...

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

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
901	A-3015-660-A	PC BOARD ASSY, MAIN				C206	1-163-019-00	CERAMIC CHIP 0.0068MF	10%	50V	
C2	1-163-103-00	CERAMIC CHIP 27PF	5%	50V		C207	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V	
C3	1-163-104-00	CERAMIC CHIP 30PF	5%	50V		C208	1-131-587-11	TANTALUM 0.68MF	10%	35V	
C4	1-163-096-00	CERAMIC CHIP 13PF	5%	50V		C209	1-163-017-00	CERAMIC CHIP 0.0047MF	5%	50V	
C5	1-163-100-00	CERAMIC CHIP 20PF	5%	50V		C210	1-163-989-11	CERAMIC CHIP 0.033MF	5%	25V	
C6	1-163-129-00	CERAMIC CHIP 330PF	10%	50V		C211	1-162-611-00	CERAMIC CHIP 1MF		25V	
C7	1-162-637-11	CERAMIC CHIP 0.47MF		16V		C212	1-163-053-00	CERAMIC CHIP 0.0033MF	10%	50V	
C8	1-164-157-11	CERAMIC CHIP 0.068MF	10%	25V		C213	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V	
C9	1-164-158-11	CERAMIC CHIP 0.082MF	10%	25V		C214	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V	
C10	1-164-158-11	CERAMIC CHIP 0.082MF	10%	25V		C215	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C11	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V		C216	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V	
C12	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V		C301	1-124-225-00	ELECT 100MF	20%	6.3V	
C13	1-124-222-00	ELECT 22MF	20%	6.3V		C302	1-124-434-00	ELECT 220MF	20%	4V	
C14	1-163-078-11	CERAMIC CHIP 0.033MF	10%	25V		C303	1-124-434-00	ELECT 220MF	20%	4V	
C15	1-124-432-00	ELECT 47MF	20%	4V		C304	1-163-038-00	CERAMIC CHIP 0.1MF		25V	
C16	1-163-986-00	CERAMIC CHIP 0.027MF	10%	25V		C305	1-124-224-00	ELECT 47MF	20%	6.3V	
C17	1-163-986-00	CERAMIC CHIP 0.027MF	10%	25V		C306	1-126-157-11	ELECT 10MF	20%	6.3V	
C18	1-162-611-00	CERAMIC CHIP 1MF		25V		C307	1-124-434-00	ELECT 220MF	20%	4V	
C19	1-162-611-00	CERAMIC CHIP 1MF		25V		C308	1-124-434-00	ELECT 220MF	20%	4V	
C20	1-163-117-00	CERAMIC CHIP 100PF	5%	50V		C310	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V	
C21	1-162-611-00	CERAMIC CHIP 1MF		25V		C311	1-163-205-00	CERAMIC CHIP 0.001MF	10%	50V	
C22	1-163-117-00	CERAMIC CHIP 100PF	5%	50V		C312	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	
C23	1-162-611-00	CERAMIC CHIP 1MF		25V		C601	1-124-432-00	ELECT 47MF	20%	4V	
C101	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V		CF1	1-527-870-00	FILTER, CERAMIC (455kHz)			
C102	1-124-432-00	ELECT 47MF	20%	4V		CF2	1-577-090-71	FILTER, CERAMIC (10.7MHz)			
C103	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V		CP1	1-236-022-11	FILTER, BAND PASS			
C104	1-163-125-00	CERAMIC CHIP 220PF	10%	50V		D1	8-719-104-22	DIODE 1SS123			
C105	1-162-611-00	CERAMIC CHIP 1MF		25V		HP901	A-3108-292-A	PC BOARD ASSY, HEAD			
C106	1-163-019-00	CERAMIC CHIP 0.0068MF	10%	50V		IC1	8-759-230-39	IC TA8122AF			
C107	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V		IC301	8-759-802-85	IC LA4570M			
C108	1-131-587-11	TANTALUM 0.68MF	10%	35V		IC302	8-759-701-07	IC NJM2063AM			
C109	1-163-017-00	CERAMIC CHIP 0.0047MF	5%	50V		J301	1-565-286-11	JACK, OUTER POWER			
C110	1-163-989-11	CERAMIC CHIP 0.033MF	5%	25V		J302	1-565-287-11	JACK (PHONES)			
C111	1-162-611-00	CERAMIC CHIP 1MF		25V		JR301	1-216-296-00	METAL GLAZE 0 5% 1/8W			
C112	1-163-053-00	CERAMIC CHIP 0.0033MF	10%	50V		JR302	1-216-296-00	METAL GLAZE 0 5% 1/8W			
C113	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V		JR303	1-216-296-00	METAL GLAZE 0 5% 1/8W			
C114	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V		JR304	1-216-296-00	METAL GLAZE 0 5% 1/8W			
C115	1-163-117-00	CERAMIC CHIP 100PF	5%	50V		JR305	1-216-296-00	METAL GLAZE 0 5% 1/8W			
C116	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V		L1	1-402-361-11	ANTENNA, FERRITE-ROD (AM)			
C201	1-163-141-00	CERAMIC CHIP 0.001MF	10%	50V		L2	1-459-844-11	COIL (WITH CORE)(FM RF)			
C202	1-124-432-00	ELECT 47MF	20%	4V		L3	1-459-846-11	COIL (WITH CORE)(FM OSC)			
C203	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V		L4	1-406-281-11	COIL (OSC)(AM)			
C204	1-163-125-00	CERAMIC CHIP 220PF	10%	50V		L5	1-410-204-31	INDUCTOR CHIP 10UH			
C205	1-162-611-00	CERAMIC CHIP 1MF		25V		L6	1-410-204-31	INDUCTOR CHIP 10UH			

Ref.No.	Part No.	Description
M901	1-541-572-11	MOTOR, DC
PVC1	1-151-599-11	CAP, VAR, POLYETHYLENE
Q1	8-729-600-27	TRANSISTOR 2SC634-S ⁰ 7
Q2	8-729-600-27	TRANSISTOR 2SC634-S ⁰ 7
Q101	8-729-102-62	TRANSISTOR 2SC1623
Q201	8-729-102-62	TRANSISTOR 2SC1623
Q301	8-729-102-62	TRANSISTOR 2SC1623
Q302	8-729-102-62	TRANSISTOR 2SC1623
R1	1-249-433-11	RES,CARBON 22K 5% 1/64W
R2	1-249-429-11	RES,CARBON 10K 10% 1/64W
R3	1-249-429-11	RES,CARBON 10K 10% 1/64W
R4	1-216-001-00	METAL GLAZE 10 5% 1/10W
R101	1-216-058-11	RES,CARBON 2.4K 5% 1/64W
R102	1-216-029-11	RES,CARBON 150 5% 1/64W
R103	1-216-063-11	RES,CARBON 3.9K 5% 1/64W
R104	1-216-101-11	RES,CARBON 150K 5% 1/64W
R105	1-216-061-11	RES,CARBON 3.3K 5% 1/64W
R106	1-216-059-11	RES,CARBON 2.7K 10% 1/64W
R107	1-216-112-11	RES,CARBON 430K 5% 1/64W
R108	1-216-061-11	RES,CARBON 3.3K 5% 1/64W
R109	1-249-437-11	RES,CARBON 47K 5% 1/64W
R110	1-216-061-11	RES,CARBON 3.3K 5% 1/64W
R111	1-249-405-11	RES,CARBON 100 10% 1/64W
R201	1-216-058-11	RES,CARBON 2.4K 5% 1/64W
R202	1-216-029-11	RES,CARBON 150 5% 1/64W
R203	1-216-063-11	RES,CARBON 3.9K 5% 1/64W
R204	1-216-101-11	RES,CARBON 150K 5% 1/64W
R205	1-216-061-11	RES,CARBON 3.3K 5% 1/64W
R206	1-216-059-11	RES,CARBON 2.7K 10% 1/64W
R207	1-216-112-11	RES,CARBON 430K 5% 1/64W
R208	1-216-061-11	RES,CARBON 3.3K 5% 1/64W
R209	1-249-437-11	RES,CARBON 47K 5% 1/64W
R210	1-216-061-11	RES,CARBON 3.3K 5% 1/64W
R211	1-249-405-11	RES,CARBON 100 10% 1/64W
R301	1-216-154-00	METAL GLAZE 15 5% 1/8W
R303	1-216-097-11	RES,CARBON 100K 10% 1/64W
R304	1-216-091-11	RES,CARBON 56K 10% 1/64W
R305	1-216-097-11	RES,CARBON 100K 10% 1/64W
RV301	1-238-072-11	RES, VAR, CABON 10K/10K (VOLUME)

Ref.No.	Part No.	Description
S301	1-571-478-11	SWITCH, SLIDE (TAPE/MODE)
S302	1-571-478-11	SWITCH, SLIDE (DOLBY/BAND)
S303	1-571-478-11	SWITCH, SLIDE (RADIO/TAPE)
S304	1-570-549-11	SWITCH, LEAF (POWER)
T1	1-404-791-11	TRANSFORMER, IF
T301	1-409-444-11	COIL, TRAP
W301	*1-565-288-11	HOUSING, CONNECTOR 3P
W302	*1-565-285-11	HOUSING, CONNECTOR (PC BAORD) 3P
X1	1-577-091-11	OSCILLATOR, CRYSTAL (19kHz)
X2	1-577-090-71	FILTER, CERAMIC (10.7MHz)

ACCESSORY & PACKING MATERIAL

*3-346-549-01	CUSHION (UPPER)
*3-346-558-01	CUSHION (LOWER)
*3-347-164-01	INDIVIDUAL CARTON
3-786-015-41	MANUAL, INSTRUCTION
8-952-313-90	HEADPHONE MDR-005L/B SET