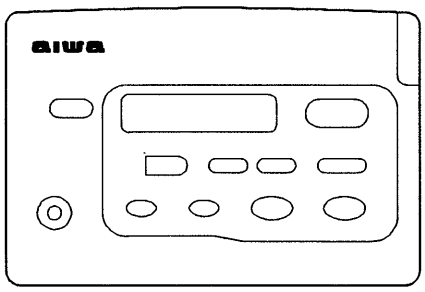
aiwa

aiwa SERVICE

HS-JX649
HS-JX749

SERVICE MANUAL



STEREO RADIO CASSETTE RECORDER

• BASIC TAPE MECHANISM : 4ZM–1R1

• TYPE: YE, Y (HS-JX649)
AH (HS-JX749)

SPECIFICATIONS

Frequency range :
Reception area " E "
AM : 531 – 1,602 kHz (9 kHz steps)
FM1, FM2 : 87.5 – 108 MHz (50 kHz steps)
Reception area " U "
AM : 530 – 1,710 kHz (10 kHz steps)
FM1, FM2 : 87.5 – 108.1 MHz (200 kHz steps)

Maximum output :
10 mW + 10 mW (EIAJ/32 Ω)
12 mW + 12 mW (EIAJ/16 Ω)

Power source :
Battery DC 2.4V, rechargeable batteries (NB-3A)
Battery DC 3V, R6 (size AA) x 2
Domestic AC power (using the optional AC adaptor)

Battery life :
Tape playback (EIAJ, 1 mW)
Supplied rechargeable batteries (HS-JX749 only)
Approx. 8 hours
Manganese batteries (R6P)
Approx. 12 hours
Alkaline batteries (LR6)
Approx. 30 hours
FM Recording (EIAJ, 1mW)
Supplied rechargeable batteries (HS-JX749 only)
Approx. 5 hours
Manganese batteries (R6P)
Approx. 7 hours
Alkaline batteries (LR6)
Approx. 13 hours

Maximum dimensions (W x H x D) :
108.6 x 78.9 x 30 mm ($4^3/_8$ x $3^1/_8$ x $1^3/_{16}$ in.)

Weight :
Approx. 185 g (6.5oz) not incl. accessories

<Battery charger / RB-105H>

Rated voltage :
AC 115V/230V, switchable 50/60 Hz

Rated output :
DC 3V 80 mA

- Design and specifications are subject to change without notice.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

S/M Code No. 09-94B-079-8FE

CAUTIONS WHEN SERVICING

When the main circuit board is opened during servicing, operation cannot be checked because the motor terminals, etc. are soldered directly to the board.

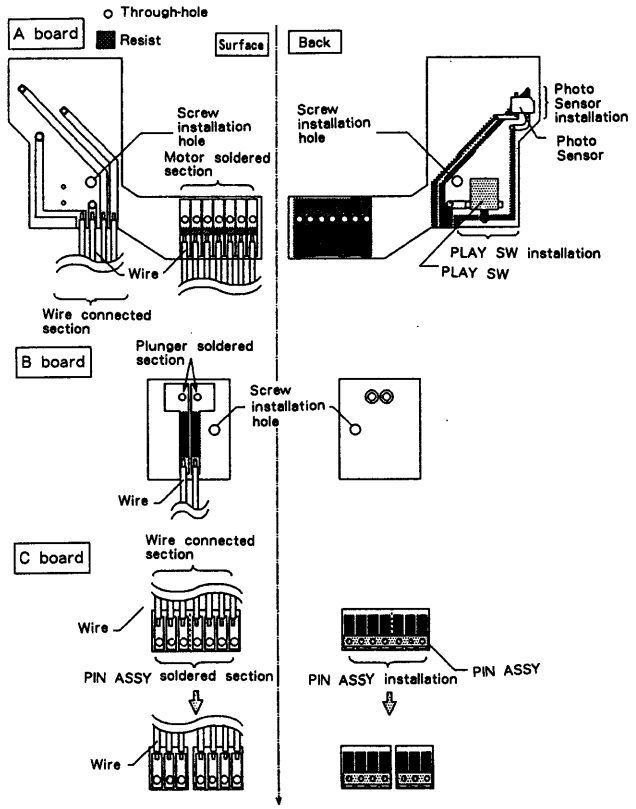
Use a jig (for the 4ZM-1) to check operation with the main circuit board open.

Part Description : 4ZM-1 JIG KIT, Part No. 09-001-323-010

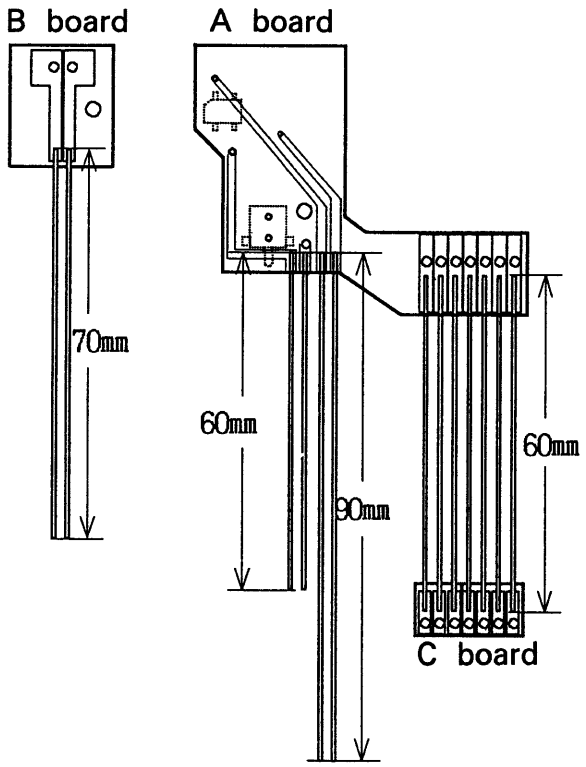
1. Assembling the Jig

Install the jig, referring to the following diagrams.

1) Divide the 6-pin flat cable to create three 2-pin wires.
2) Solder the C-SW PUSH and P-SNSR to the A board.
3) Solder the 7-pin flat cable and two 2-pin wires to the A board.
4) Solder the 2-pin wire to the B board.
5) Attach the PIN ASSY to the C board and solder it to the other end of the 7-pin flat cable which has been soldered to the A board.



Details of Jig and Assembly



Jig Complete View

2. Attaching the Jig

A board

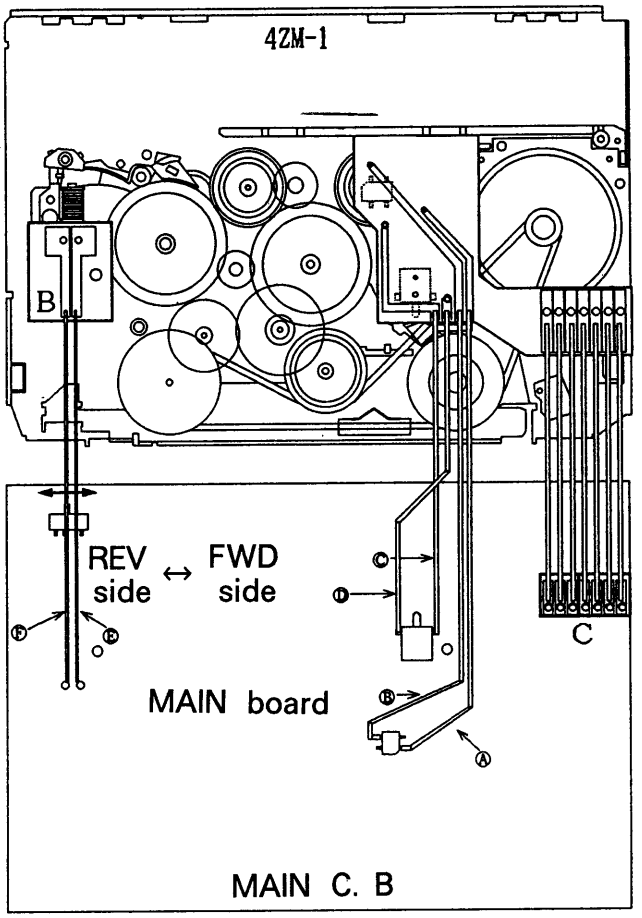
- Fix the A board to the mechanism using the main board holding screws.
- Solder the motor terminals.
- Solder wires Ⓐ and Ⓑ to the PHOTO SENSOR.
- Solder wires Ⓒ and Ⓓ to the PLAY SW.

B board

- Fix the B board to the mechanism using the main board holding screws.
- Solder the plunger terminals.
- Solder wires Ⓔ and Ⓕ to plunger land on the MAIN board.

C board

- Solder the PIN ASSY on the C board to motor land on the MAIN board.



3. Using the Jig

When the circuit board is opened, the operation switches on the board are at the back. To increase working efficiency, use the remote control to operate the unit.

1) Connect the remote control to the unit.
2) Set the remote switch to ON.
3) Short the C-SW terminal.
4) Be careful that no external light enters the photosensor on the MAIN board to prevent a malfunction.
5) Switch the F/R SW to match the running of tape.

ELECTRICAL MAIN PARTS LIST

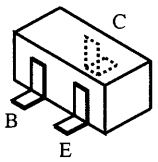
If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC			
	87-001-894-080		IC,TA8155FN
	87-001-875-080		IC,BA1106FS
	87-020-234-080		IC,TA7688F
	87-002-406-080		IC,TPIC326ADB
	87-017-793-080		IC,P-SNSR,GP2L27
	87-001-931-080		IC,TA8152FN
	87-001-971-080		IC,TA8132AF
	87-017-946-010		IC,TC9317-011
	87-017-686-080		IC,AK93C45LF
	87-001-151-080		IC,TD6134F
	87-001-145-080		IC,TA8126F
	87-017-643-080		IC,MM1206XF<YE,Y>
	87-017-540-080		IC,MM1209XF<AH>
	87-070-076-040		IC,PST9015
TRANSISTOR			
	89-508-804-080		C-FET,2SK880Y
	87-026-585-080		C-TR,IMX1 HQQ
	87-026-414-080		C-TR,RN1307
	87-026-475-080		C-TR,RN1607
	87-026-476-080		C-TR,RN1610
	87-026-418-080		C-TR,RN1311
	87-026-412-080		C-TR,RN1305
	89-113-625-080		C-TR,2SA1362GR
	87-026-474-080		C-TR,RN1605
	89-115-864-080		C-TR,2SA1586Y
	89-342-132-080		C-TR,2SC4213B
	87-026-423-080		C-TR,RN2305
	89-342-153-080		C-TR,2SC4215O
	87-026-601-080		C-TR,UMD6
	87-026-660-080		C-TR,UMZ1<AH>
	89-508-824-080		C-FET,2SK882Y
	87-026-535-080		C-TR,RN4907
	87-026-343-080		C-TR,DTC123JU
	89-341-165-080		C-TR,2SC4116GR
	87-026-346-080		C-TR,DTC114YU
	87-026-342-080		C-TR,DTC144EU
DIODE			
	87-017-779-080		C-DIODE,1SS355
	87-001-167-080		C-DIODE,1SS302
	87-001-166-080		C-DIODE,1SS301
	87-017-367-080		C-DIODE,DAP 202U
MAIN C.B			
C1	87-016-314-080		C-CAP,S 1-16 F
C2	87-016-314-080		C-CAP,S 1-16 F
C3	87-012-195-080		C-CAP,U 100P-50 CH
C4	87-012-195-080		C-CAP,U 100P-50 CH
C5	87-012-274-080		C-CAP,U 1000P-50 B
C6	87-012-274-080		C-CAP,U 1000P-50 B
C7	87-010-175-080		C-CAP,S 560P-50 SL
C8	87-010-175-080		C-CAP,S 560P-50 SL
C9	87-010-958-080		C-CAP,S 0.01-25 BJ
C10	87-010-958-080		C-CAP,S 0.01-25 BJ
C11	87-016-296-080		C-CAP,TN 22-4 SV(A)
C12	87-016-296-080		C-CAP,TN 22-4 SV(A)
C13	87-010-198-080		C-CAP,S 0.022-25 B
C14	87-010-198-080		C-CAP,S 0.022-25 B
C15	87-016-314-080		C-CAP,S 1-16 F
C16	87-016-314-080		C-CAP,S 1-16 F
C17	87-010-828-080		C-CAP,U 0.033-16 F
C18	87-010-828-080		C-CAP,U 0.033-16 F
C19	87-012-282-080		C-CAP,U 4700P-50 B
C20	87-012-282-080		C-CAP,U 4700P-50 B
C21	87-012-286-080		C-CAP,U 0.01-25 B
C22	87-012-286-080		C-CAP,U 0.01-25 B
C23	87-010-828-080		C-CAP,U 0.033-16 F
C24	87-010-828-080		C-CAP,U 0.033-16 F
C25	87-010-831-080		C-CAP,U 0.1-16 F
C26	87-010-831-080		C-CAP,U 0.1-16 F
C27	87-016-314-080		C-CAP,S 1-16 F
C28	87-016-314-080		C-CAP,S 1-16 F
C29	87-010-831-080		C-CAP,U 0.1-16 F
C30	87-010-831-080		C-CAP,U 0.1-16 F
C31	87-016-314-080		C-CAP,S 1-16 F
C32	87-016-314-080		C-CAP,S 1-16 F
C35	87-010-179-080		C-CAP,S 1200P-50 B
C36	87-010-179-080		C-CAP,S 1200P-50 B
C37	87-012-141-080		C-CAP,S 0.22-16 F
C38	87-012-141-080		C-CAP,S 0.22-16 F
C39	87-010-853-080		C-CAP,E 220-4V H5.5
C40	87-010-944-080		C-CAP,E 220-4
C41	87-010-944-080		C-CAP,E 220-4
C42	87-016-225-080		C-CAP,TN 100-4 F95
C43	87-016-867-080		C-CAP,TN 10-4
C44	87-010-867-080		C-CAP,TN 10-4
C51	87-016-296-080		C-CAP,TN 22-4 SV(A)
C52	87-010-851-080		C-CAP,E 47-4V H5.5
C53	87-016-296-080		C-CAP,TN 22-4 SV(A)
C54	87-010-831-080		C-CAP,U 0.1-16 F
C55	87-010-830-080		C-CAP,U 0.068-16 F
C56	87-016-057-080		C-CAP,TN 47-4 F95
C57	87-016-296-080		C-CAP,TN 22-4 SV(A)
C58	87-012-286-080		C-CAP,U 0.01-25 B
C59	87-010-853-080		C-CAP,E 220-4V H5.5
C60	87-016-057-080		C-CAP,TN 47-4 F95
C61	87-015-923-080		C-CAP,TN 0.22-35
C62	87-015-923-080		C-CAP,TN 0.22-35
C63	87-010-198-080		C-CAP,S 0.022-25 B
C64	87-010-198-080		C-CAP,S 0.022-25 B
C65	87-016-314-080		C-CAP,S 1-16 F
C66	87-016-314-080		C-CAP,S 1-16 F
C67	87-016-314-080		C-CAP,S 1-16 F
C68	87-016-314-080		C-CAP,S 1-16 F
C69	87-016-296-080		C-CAP,TN 22-4 SV(A)
C70	87-010-746-080		C-CAP,TN 10-4 A
C71	87-012-274-080		C-CAP,U 1000P-50 B
C72	87-012-140-080		C-CAP,S 470P-50 CH
C73	87-012-140-080		C-CAP,S 470P-50 CH
C74	87-010-182-080		C-CAP,S 2200P-50 B
C75	87-012-286-080		C-CAP,U 0.01-25 B
C76	87-012-286-080		C-CAP,U 0.01-25 B
C77	87-016-314-080		C-CAP,S 1-16 F
C78	87-010-424-080		C-CAP,TN 4.7-4
C79	87-010-183-080		C-CAP,S 2700P-50 B
C80	87-012-286-080		C-CAP,U 0.01-25 B
C81	87-012-286-080		C-CAP,U 0.01-25 B
C82	87-010-867-080		C-CAP,TN 10-4
C91	87-010-522-080		C-CAP,TN 2.2-10
C92	87-010-505-080		C-CAP,TN 1-16
C101	87-012-286-080		C-CAP,U 0.01-25 B
C103	87-016-196-080		C-CAP,S 0.1-25 F
C104	87-016-461-080		C-CAP,S 0.47-16 F
C105	87-010-194-080		C-CAP,S 0.047-25 F
C106	87-010-504-080		C-CAP,TN 0.47-25
C107	87-010-504-080		C-CAP,TN 0.47-25
C108	87-010-831-080		C-CAP,U 0.1-16 F
C109	87-012-142-080		C-CAP,S 0.33-16 F
C110	87-010-522-080		C-CAP,TN 2.2-10
C111	87-016-461-080		C-CAP,S 0.47-16 F
J2	87-099-661-010		JACK,DC 3.75-2.2
L1	87-003-369-080		C-COIL,U 3.3UH K
L2	87-003-369-080		C-COIL,U 3.3UH K
L3	87-003-369-080		C-COIL,U 3.3UH K

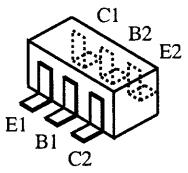
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
L4	87-003-369-080		C-COIL,U 3.3UH K
L6	87-003-369-080		C-COIL,U 3.3UH K
L7	87-007-246-080		C-COIL,OSC BIAS
R3	87-022-283-080		C-RES,U 820-1/16W F
R4	87-022-283-080		C-RES,U 820-1/16W F
R5	87-022-283-080		C-RES,U 820-1/16W F
R6	87-022-283-080		C-RES,U 820-1/16W F
R9	87-022-243-080		C-RES,U 15K-1/16W F
R10	87-022-243-080		C-RES,U 15K-1/16W F
R11	87-022-292-080		C-RES,U 330K-1/16W F
R12	87-022-292-080		C-RES,U 330K-1/16W F
R112	87-022-037-080		M-RES,TH 0.68-4300
SFR1	87-024-657-080		C-SFR,6.8K EVM 3SS
SW1	87-036-244-080		C-SW,SLIDE 1-2-2(NC)
SW2	87-036-373-080		C-SW,SLIDE 1-1-2(E)
SW3	87-036-373-080		C-SW,SLIDE 1-1-2(E)
SW4	87-036-237-080		C-SW,PUSH
SW5	80-ZM4-605-010		SW,LEAF REC
SW6	87-036-373-080		C-SW,SLIDE 1-1-2(E)
SW7	87-036-236-080		C-SW,SLIDE 1-1-2(NC)
VR1	87-024-654-010		VR,20KA DIA 14
TUNER C.B			
	87-008-440-080		C-FILTER,KIT 10.7,AE
BPF1	87-008-406-080		BPF,GFMB1
C301	87-012-195-080		C-CAP,U 100P-50 CH
C303	87-012-275-080		C-CAP,U 1200P-50 B
C304	87-012-193-080		C-CAP,U 82P-50 CH
C307	87-010-316-080		C-CAP,S 33P-50 CH
C309	87-012-286-080		C-CAP,U 0.01-25 B
C311	87-010-319-080		C-CAP,S 56P-50 CH
C312	87-012-164-080		C-CAP,U 2P-50 CK
C313	87-010-197-080		C-CAP,S 0.01-25 B
C314	87-012-286-080		C-CAP,U 0.01-25 B
C315	87-010-831-080		C-CAP,U 0.1-16 F
C316	87-012-286-080		C-CAP,U 0.01-25 B
C317	87-012-274-080		C-CAP,U 1000P-50 B
C318	87-012-286-080		C-CAP,U 0.01-25 B
C319	87-010-186-080		C-CAP,S 4700P-50 B
C320	87-012-286-080		C-CAP,U 0.01-25 B
C321	87-012-252-080		C-CAP,U 30P-50 UJ
C322	87-010-174-080		C-CAP,S 470P-50 SL
C324	87-012-282-080		C-CAP,U 4700P-50 B
C325	87-016-436-080		C-CAP,TN 47-4(B2)
C326	87-010-198-080		C-CAP,S 0.022-25 B
C327	87-010-829-080		C-CAP,U 0.047-16 F
C328	87-010-424-080		C-CAP,TN 4.7-4
C329	87-012-282-080		C-CAP,U 4700P-50 B
C330	87-012-141-080		C-CAP,S 0.22-16 F<YE,Y>
C330	87-010-805-080		C-CAP,S 1-16 F<AH>
C331	87-012-141-080		C-CAP,S 0.22-16 F<YE,Y>
C331	87-010-805-080		C-CAP,S 1-16 F<AH>
C332	87-012-280-080		C-CAP,U 3300P-50 B
C333	87-012-286-080		C-CAP,U 0.01-25 B
C334	87-012-286-080		C-CAP,U 0.01-25 B
C335	87-010-831-080		C-CAP,U 0.1-16 F
C336	87-010-831-080		C-CAP,U 0.1-16 F
C337	87-010-830-080		C-CAP,U 0.068-16 F
C338	87-010-805-080		C-CAP,S 1-16 F
C339	87-012-199-080		C-CAP,U 220P-50 CH
C340	87-010-831-080		C-CAP,U 0.1-16 F
C341	87-010-787-080		C-CAP,U 0.022-25 B
C342	87-010-787-080		C-CAP,U 0.022-25 B
C343	87-012-273-080		C-CAP,U 820P-50 B
C344	87-010-196-080		C-CAP,S 0.1-25 F
C345	87-012-270-080		C-CAP,U 470P-50 B
C346	87-016-296-080		C-CAP,TN 22-4 SV(A)
C347	87-010-831-080		C-CAP,U 0.1-16 F
C348	87-012-169-080		C-CAP,U 7P-50 CH
C349	87-010-831-080		C-CAP,U 0.1-16 F
C350	87-016-296-080		C-CAP,TN 22-4 SV(A)
C351	87-010-831-080		C-CAP,U 0.1-16 F
C352	87-010-831-080		C-CAP,U 0.1-16 F
C353	87-012-286-080		C-CAP,U 0.01-25 B
C354	87-010-805-080		C-CAP,S 1-16 F
C355	87-012-286-080		C-CAP,U 0.01-25 B
C356	87-012-195-080		C-CAP,U 100P-50 CH<YE,Y>
C357	87-012-286-080		C-CAP,U 0.01-25 B
C358	87-012-286-080		C-CAP,U 0.01-25 B
C359	87-010-787-080		C-CAP,U 0.022-25 B
C360	87-010-505-080		C-CAP,TN 1-16
C361	87-010-805-080		C-CAP,S 1-16 F
C362	87-012-142-080		C-CAP,S 0.33-16 F
C363	87-012-199-080		C-CAP,U 220P-50 CH
C364	87-012-195-080		C-CAP,U 100P-50 CH
C365	87-012-172-080		C-CAP,U 10P-50 CH
C366	87-012-276-080		C-CAP,U 1500P-50 B
C367	87-016-296-080		C-CAP,TN 22-4 SV(A)
C368	87-012-176-080		C-CAP,U 15P-50 CH
C369	87-010-196-080		C-CAP,S 0.1-25 F
C370	87-010-482-010		CAP,E 220-4
C371	87-010-482-010		CAP,E 220-4
C376	87-010-805-080		C-CAP,S 1-16 F
C377	87-012-286-080		C-CAP,U 0.01-25 B
C378	87-010-805-080		C-CAP,S 1-16 F
C379	87-012-286-080		C-CAP,U 0.01-25 B
C380	87-016-436-080		C-CAP,TN 47-4(B2)
C381	87-012-286-080		C-CAP,U 0.01-25 B
C382	87-012-286-080		C-CAP,U 0.01-25 B
C383	87-012-286-080		C-CAP,U 0.01-25 B
C384	87-012-349-080		C-CAP,S 1000P-50 CH
C385	87-012-349-080		C-CAP,S 1000P-50 CH
CF303	87-008-540-080		C-FLTR,PFBF450
CT301	87-011-192-080		C-TRIMER,CTZ30C
D311	87-001-708-080		C-VARACTOR,1SV228
D313	87-026-435-080		C-VARICAP,KV1560
D314	87-070-078-080		C-LED,SML-010 MT
D315	87-070-077-080		C-LED,SML-010 DT
D316	87-070-079-080		C-LED,SML-010 VT
D317	87-001-708-080		C-VARACTOR,1SV228
L301	87-005-564-080		C-COIL,S 2.2UH K
L302	81-HJ1-622-080		COIL,FM OSC Y(R)
L305	87-003-247-080		C-COIL,100UH J
L306	87-005-788-080		C-IFT,AM(450K)
L307	87-005-789-080		C-COIL,DD-CON(796K)
L308	81-HJ1-623-080		COIL,FM RF Y(R)
L309	84-HJ9-616-010		COIL,LOADING 3.3
SW306	87-036-382-080		C-SW,TACT(HKW0652)
SW307	87-036-382-080		C-SW,TACT(HKW0652)
SW311	87-036-123-080		C-SW,SLIDE 1-1-2
TC302	87-011-189-080		C-TRIMER,CTZ-10A
X302	87-030-385-080		C-VIB,CER(456KHZ)
X303	87-030-393-080		C-VIB,XTAL 75K KS309
HEAD FLEX C.B			
PH	84-HJ2-611-010		HEAD,RPH ASSY
JACK C.B			
	84-HJ9-607-010		PWB,FLEX JACK 8P
J1	87-009-733-010		JACK,3.5 BLK 5P
J3	87-009-734-010		JACK,3.5 BLK 3P

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
TUNER FLEX C.B			
	84-HJ9-612-010		PWB,FLEX TU 25P
LEAF FLEX C.B			
	84-HJ9-606-010		PWB,FLEX LEAF 7P
L304	84-HJ9-613-010		BAR-ANT,MW
SW9	84-HJ9-604-010		SW,LEAF REC SEARCH
SW10	84-HJ9-603-010		SW,LEAF PLAY SEARCH
SW11	84-HJ9-603-010		SW,LEAF PLAY SEARCH
SW12	84-HJ9-604-010		SW,LEAF PLAY SEARCH

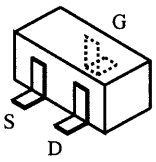
TRANSISTOR ILLUSTRATION



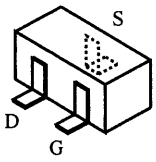
2SA1362
2SA1586
2SC4116
2SC4213
2SC4215
DTC114YU
DTC123JU
DTC144EU
RN1305
RN1307
RN1311
RN2305



IMX1
RN1605
RN1607
RN1610
RN4907
UMD6
UMZ1



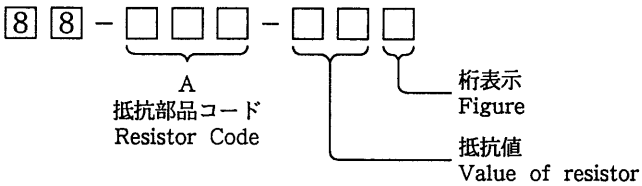
2SK880



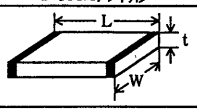
2SK882

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

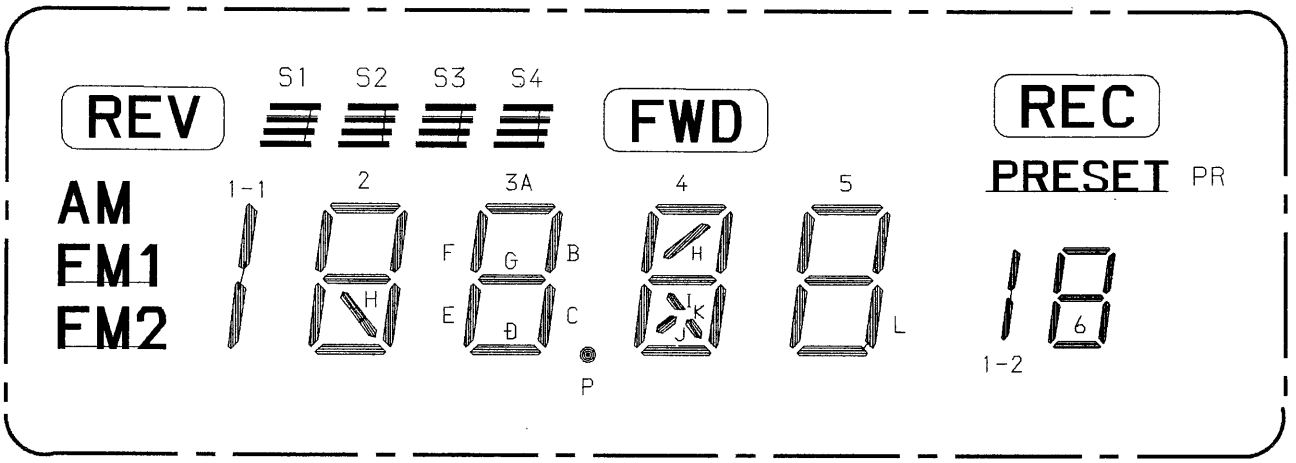
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



チップ抵抗
Chip resistor

Wattage 容量	Type 種類	Tolerance 許容誤差	Symbol 記号	Dimensions／寸法 (mm) Form/外形	L	W	t	Resistor Code : A 抵抗コード : A
1/32W	1608	±5%	CJ		1.6	0.8	0.35	108
1/10W	2125	±5%	CJ		2	1.25	1.45	118
1/8W	3126	±5%	CJ		3.2	1.6	0.5 ~0.7	128

LCD DIAGRAM



NO	COM1	COM2	COM3
1	COM1	——	——
2	——	COM2	——
3	——	——	COM3
4	——	——	REV
5	FM2	FM1	S1
6	——	1-1	AM
7	2E	2F	S2
8	2H	2G	2A
9	2Đ	2C	2B
10	——	3F	S3
11	3E	3G	3A
12	3Đ	3C	3B
13	4E	4F	S4
14	FWĐ	4H	4A
15	4I	4G	4B
16	4J	4K	4C
17	P	4Đ	REC
18	——	5E	5F
19	5L	5G	5A
20	——	5B	——
21	——	1-2	PR
22	——	6E	6F
23	6Đ	6G	6A
24	——	6C	6B

IC DESCRIPTION

IC, TC9317 - 011

Pin No.	Pin Name	I/O	Description
1	COM 1	O	LCD DRIVER COMMON terminals.
2	COM 2		
3	COM 3		
4	AM 900	O	Goes "H" near AM 900kHz frequency. (Not used)
5	F REC P IN	I	H : Prohibit FWD REC, L : Possible FWD REC.
6	R REC P IN	I	H : Prohibit REV REC, L : Possible REV REC.
7	PLAY IN	I	H : Except PLAY mode, L : PLAY mode.
8	F / R SW IN	I	H : FWD direction, L : REV direction.
9	REV MODE IN	I	Mode switch. H : ⟲, L : ⇄.
10	BS SW IN	I	H : Set up BS mode, L : Cancel BS mode.
11	MS / BS IN	I	MS / BS pulse inputs. L : Exist music, H : Not exist music.
12	NC	–	Not used.
13	S 10	O	LCD DRIVER output.
14	S 11		
15	S 12		
16	S 13		
17	S 14		
18	S 15		
19	S 16		
20	S 17		
21	S 18		
22	S 19		
23	S 20		
24	S 21		
25	S 22		
26	S 23 / KR 7	O	LCD DRIVER output, KEY PATTERN output.
27	S 24 / KR 6		
28	S 25 / KR 5		
29	S 26 / KR 4		
30	S 27 / KR 3		
31	S 28 / KR 2		
32	S 29 / KR 1		
33	S 30 / KR 0		
34	K 0	I	KEY PATTERN input.
35	K 1		
36	K 2		
37	K 3		
38	P 1 – 0	O	KEY PATTERN output.
39	P 1 – 1		
40	C – SW IN	I	H : Not exist cassette tape, L : Exist cassette tape.

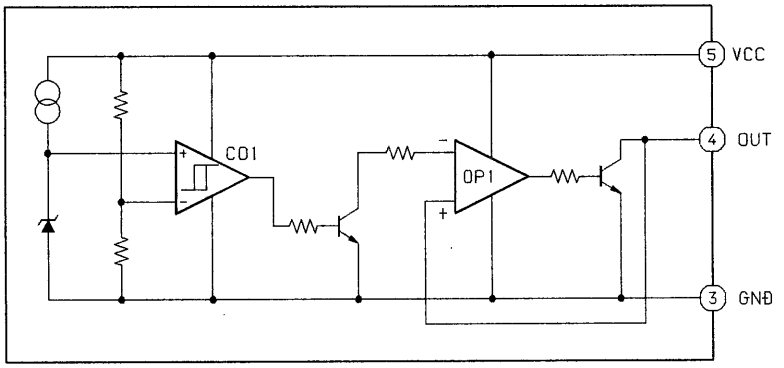
Pin No.	Pin Name	I/O	Description
41	REMOTE ON	I	H : Possible remote controller key input, L : Impossible remote controller key input.
42	REMOTE IN	I	Remote controller key input terminal.
43	AUTO STOP IN	I	Detects tape running. Input P - SNSR output waveform.
44	V REF	I	Inputs power for decide remote controller key input.
45	BIAS MUTE	O	Outputs AF MUTE during TU REC mode. H : ON, L : OFF.
46	SDR	I	Restricts the communication by terminal level condition. (Not used)
47	SDATA OUT	O	Serial data output for remote controller indicator. (Not used)
48	SCK	O	Serial clock. (Not used)
49	BZ OUT	O	Outputs buzzer sound.
50	MD PL	O	Outputs pulse for mechanism operation.
51	REC PL	O	Outputs pulse for REC mechanism operation.
52	MOTOR F / R	O	Set up the motor direction. H : FWD, L : REV.
53	MOTOR (HI)	O	Set up the motor operation. H : MOTOR (HI) OFF, L : ON.
54	MOTOR (LO)	O	Set up the motor operation. H : MOTOR (LO) OFF, L : ON.
55	BRAKE	O	H : MOTOR BRAKE ON, L : OFF.
56	TV OUT	–	Not used.
57	FM – TV OUT	O	Goes "H" in the FM reception mode.
58	AM OUT	O	Goes "H" in the AM reception mode.
59	C – SEL	O	Control of E^2PROM IC.
60	SCK	I/O	Clock signal of E^2PROM IC.
61	SDATA	I/O	Data communications with E^2PROM IC .
62	MUTE OUT	O	Muting output. H : MUTE ON, L : OFF.
63	TEST	–	Not used.
64	IF IN	I	IF signal input.
65	TU OUT	O	H : TU Operate, L : TU OFF.
66	PLL OUT	O	PLL output.
67	TU SW (HOLD)	I	H : TU ON, L : TU OFF.
68	PSC	O	PSC output.
69	GND	–	Connected to GND.
70	FM IN	I	Input for prescaler output.
71	AM IN	I	AM OSC input.
72	VDD	–	Power supply.
73	$\overline{\text{RESET}}$	I	Input reset.
74	X OUT	–	A crystal oscillator is connected.
75	X IN		
76	V XT	–	Connected to GND.
77	V LCD	–	LCD boosting power supply.
78	C 1	–	Capacitors are connected for the LCD boosting power supply.
79	C 2		
80	VEE	–	Connected to GND.

KEY MATRIX TRUTH TABLE

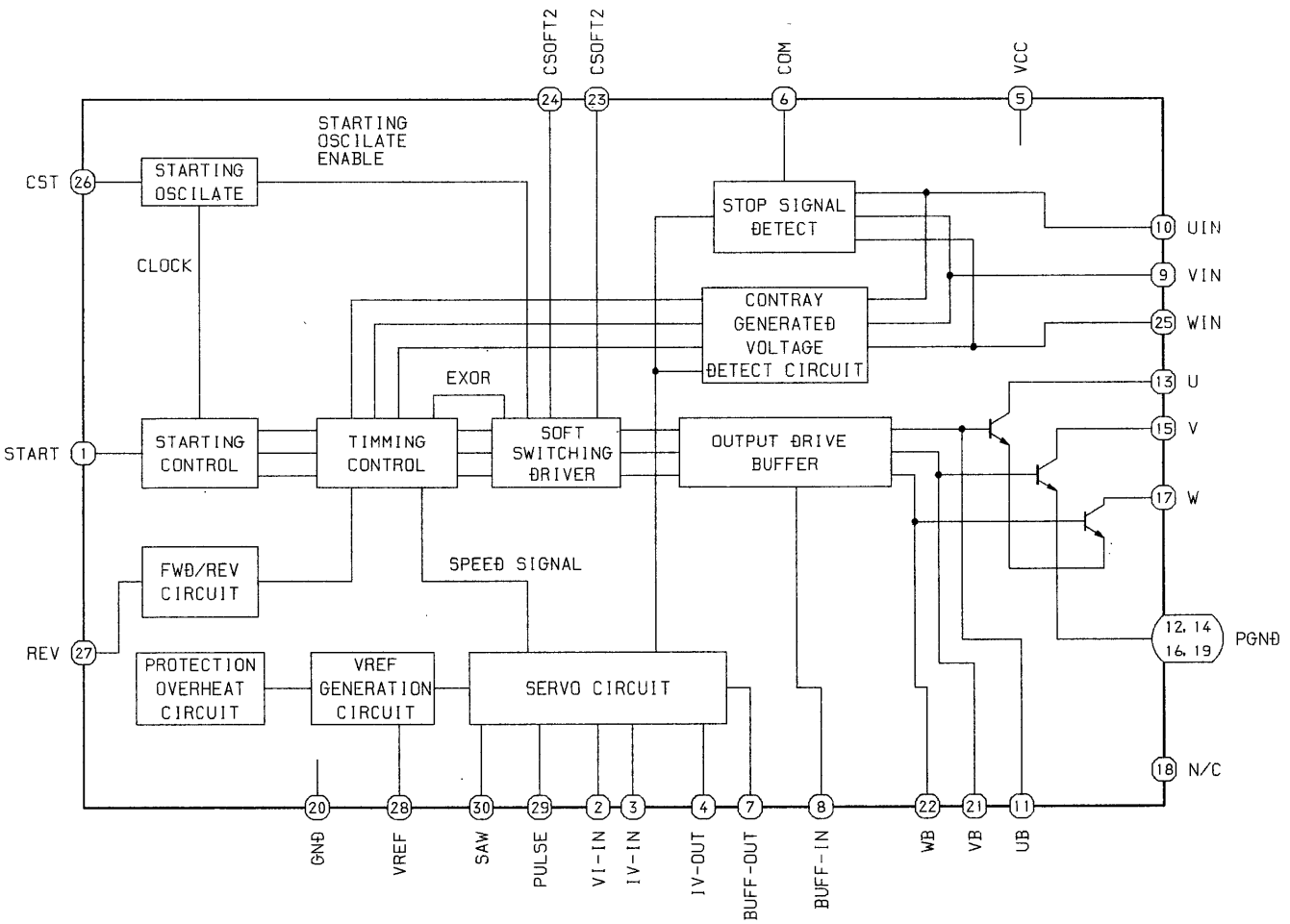
	K0	K1	K2	K3	
	FUNCTION	STOP	FF	REC	
P1 - 0					P1 - 0
	REW	REPEAT	PLAY		
P1 - 1					P1 -1
	PRESET 1	PRESET 2	PRESET 3	PRESET 4	
KR0					KR0
	PRESET 5	PRESET 6	PRESET + 5		
KR1					KR1
	UP	DOWN	ENTER		
KR2					KR2
	DISP 1	DISP 2	BBE 1	BBE 2	
KR3					KR3
	ZN 1	ZN 2	ZN 3	REC + B	
KR4					KR4
	DOLBY	PLSS	ALL LCD LIGHTS	EPROM RESET	
KR5					KR5
	IF SW	IF REQ	AUTO AREA ON / OFF	FUNCTION SW	
KR6					KR6
	DESTINATION CHANGE SW (U)	DESTINATION CHANGE SW (E)		HOLD	
KR7					KR7

IC BLOCK DIAGRAM

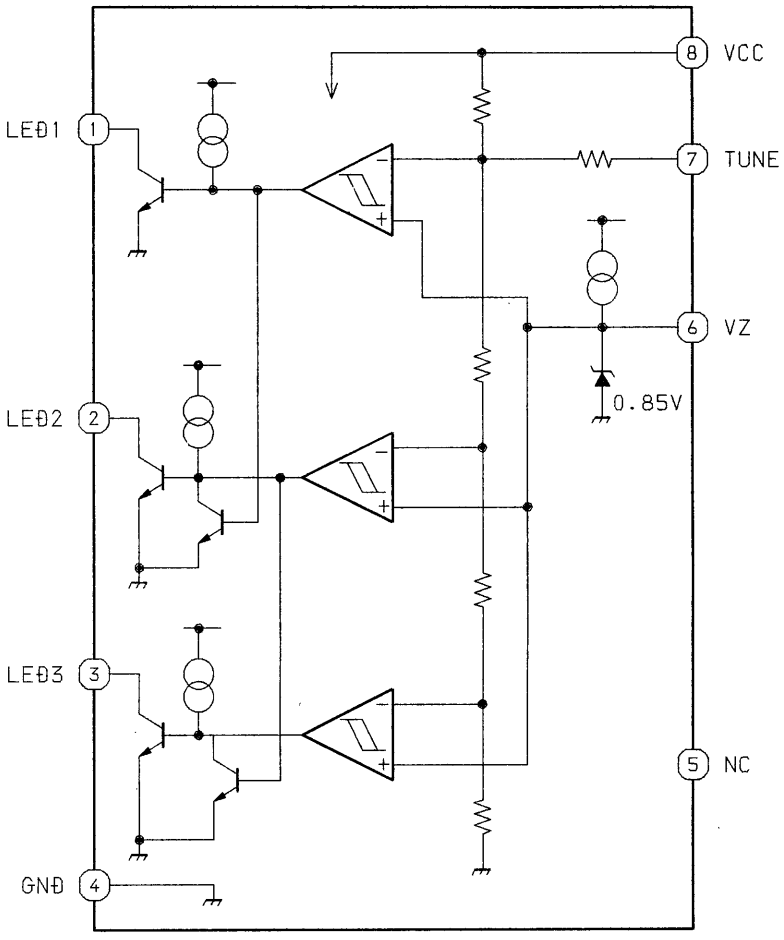
IC, PST9015



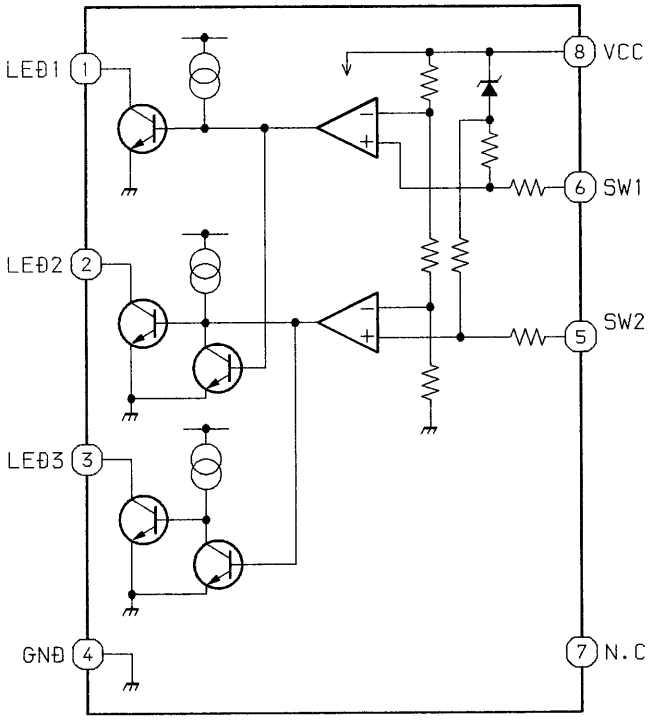
IC, TPIC326ADB

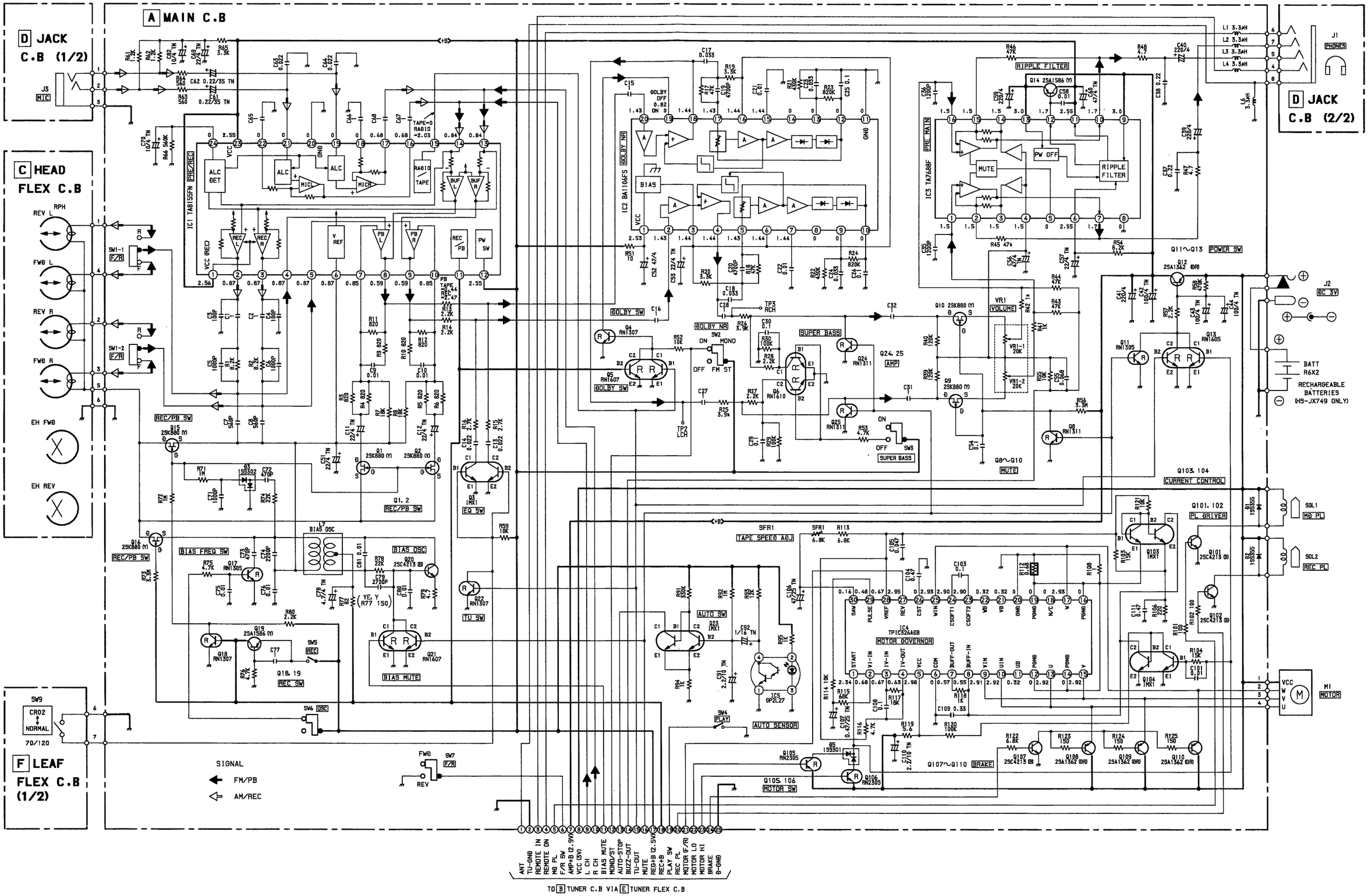


IC, MM1209XF (AH ONLY)



IC, MM1206XF (YE, Y ONLY)




A MAIN C.B
D JACK C.B (1/2)
D JACK C.B (2/2)
C HEAD FLEX C.B
F LEAF FLEX C.B (1/2)
IC1 TA8155FN
IC2 BA1106FS
IC3 TA7688F
IC4 TPIC326ADB MOTOR GOVERNOR
IC5 GP2L27
RIPPLE FILTER
PRE MAIN
MUTE
PW OFF
BIAS
BOLBY NR
BOLBY SW
SUPER BASS
AMP
VOLUME
POWER SW
CURRENT CONTROL
PL DRIVER
MUTE
BRAKE
MOTOR SW
AUTO SW
AUTO SENSOR
TAPE SPEED ADJ
REC/PB SW
BIAS FREQ SW
BIAS OSC
BIAS MUTE
REC SW
EQ SW
TU SW
SW4 PLAY
SW5 REC
SW6 OSC
SW7 F/R
SW9 CR02 NORMAL 70/120
J1 PHONES
J2 DC 3V
BATT R6X2
RECHARGEABLE BATTERIES (HS-JX749 ONLY)
M1 MOTOR
SDL1 MD PL
SDL2 REC PL
EH FWD
EH REV
SIGNAL
FM/PB
AM/REC
TO B TUNER C.B VIA E TUNER FLEX C.B
ANT
TU-GND
REMOTE IN
REMOTE ON
MD PL
F/R SW
AMP+B (2.9V)
VCC (5V)
L CH
R CH
BIAS MUTE
MONO/ST
AUTO-STOP
BUZZ-OUT
TU-OUT
MUTE
REG+B (2.5V)
REC+B
PLAY SW
REC PL
MOTOR F/R
MOTOR LO
MOTOR HI
BRAKE
B-GND

F LEAF FLEX C.B (1/2)

TO B TUNER C.B

SW12
F.REC.P.IN

SW9
CR02
NORMAL

TO B TUNER C.B

D
JACK C.B

J1
PHONES

J3
MIC

C
HEAD
FLEX C.B

PH

TO B TUNER C.B

E TUNER FLEX C.B (1/2)

J2
DC 3V

M1
MOTOR

SW2
DOLBY NR
ON ↔ OFF
MONO ↔ FM ST

SW3
SUPER BASS
ON ↔ OFF

A MAIN C.B

VR1
VOLUME

SW5
REC

SW6
OSC

R6x2 (DC 3V)

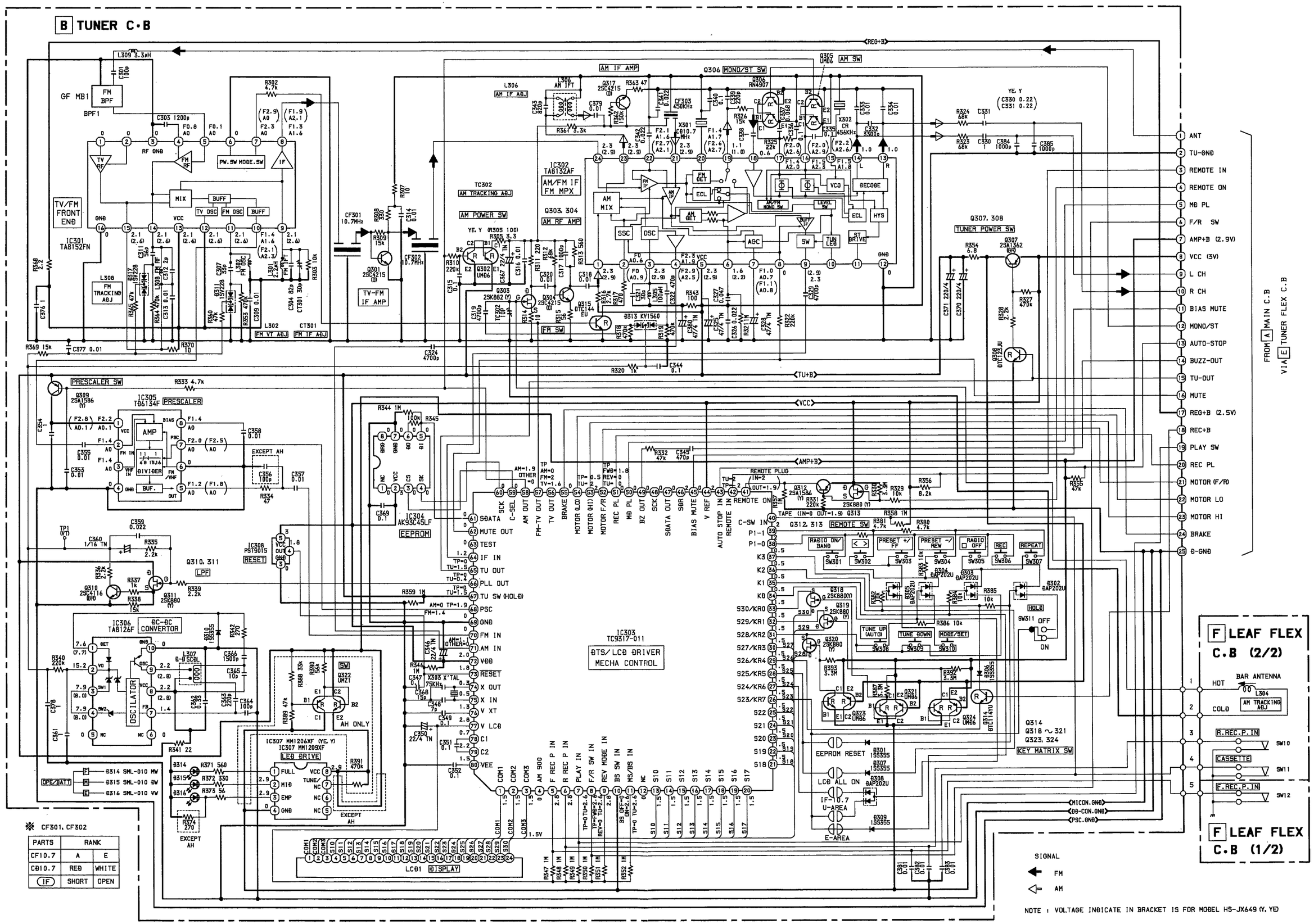
RECHARGEABLE BATTERIES (HS-JX748 ONLY)

A MAIN C.B

SW1
F/R
F
R

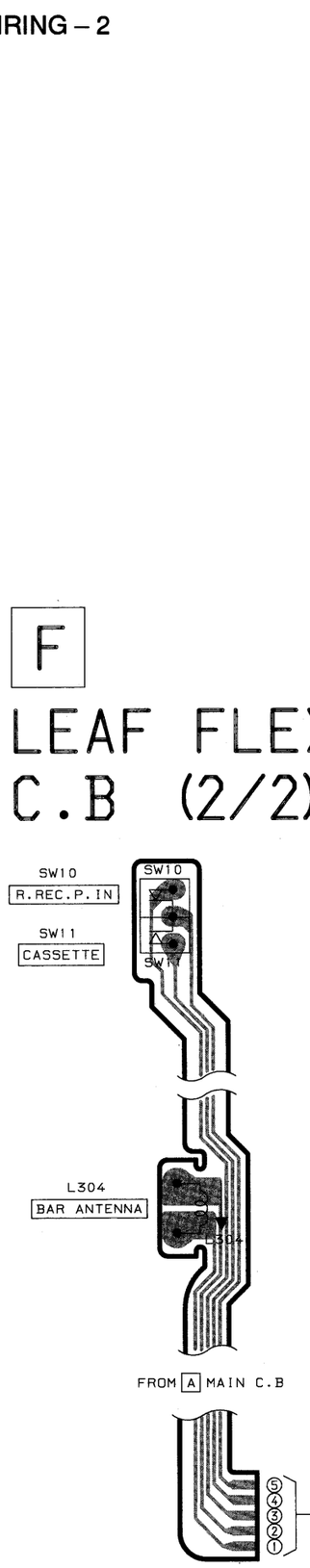
SW7
F/R
REV
FWD

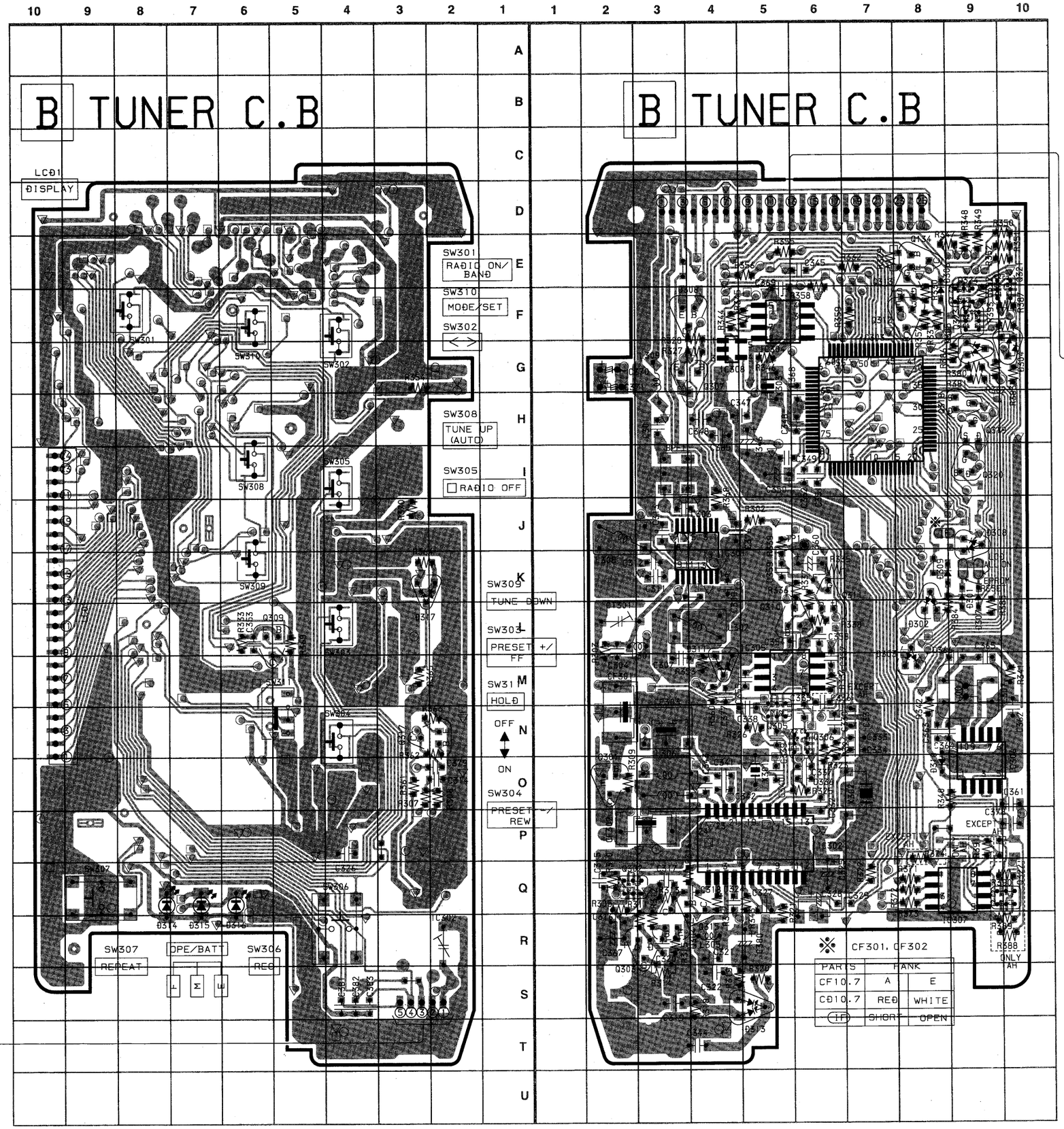
SW4
PLAY

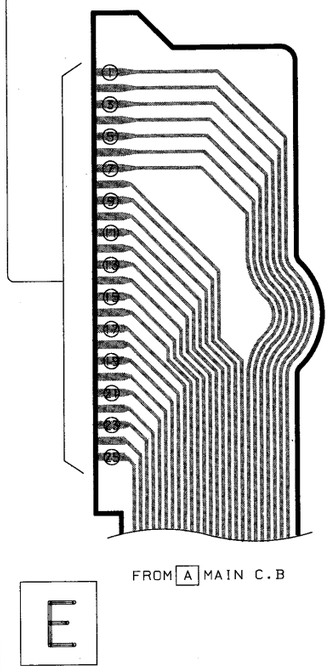

B TUNER C·B
IC301 TA8152FN
IC302 TA8132AF AM/FM IF FM MPX
IC303 TC9317-011 ΘTS/LCΘ ΘRIVER MECHA CONTROL
IC304 AK93C45LF EEPROM
IC305 TΘ6134F PRESCALER
IC306 TA8126F ΘC-ΘC CONVERTER
IC307 MM1206XF (YE, Y) IC307 MM1209XF LEΘ ΘRIVE
IC308 PST9015 RESET
Q303, 304 AM RF AMP
Q306 MONO/ST SW
Q307, 308 TUNER POWER SW
Q309 2SA1586 (Y)
Q310 2SC4116 (ΘR)
Q311 25K880 (Y)
Q312, 313 REMOTE SW
Q314 Q318 ~ 321 Q323, 324 KEY MATRIX SW
Q317 2SC4215 (Θ)
Q318 25K880(Y)
Q319 25K880 (Y)
Q320 25K880 (Y)
Q330 2SA1586 (Y)
Q331 25K880 (Y)
Q332 2SA1586 (Y)
Q333 2SA1562 (ΘR)
Q334 ΘTC114YU
Q335 ΘTA123JU
Q336 ΘTC114YU
Q337 ΘTC114YU
Q338 ΘTC114YU
Q339 ΘTC114YU
Q340 ΘTC114YU
Q341 ΘTC114YU
Q342 ΘTC114YU
Q343 ΘTC114YU
Q344 ΘTC114YU
Q345 ΘTC114YU
Q346 ΘTC114YU
Q347 ΘTC114YU
Q348 ΘTC114YU
Q349 ΘTC114YU
Q350 ΘTC114YU
Q351 ΘTC114YU
Q352 ΘTC114YU
Q353 ΘTC114YU
Q354 ΘTC114YU
Q355 ΘTC114YU

F

LEAF FLEX C.B (2/2)



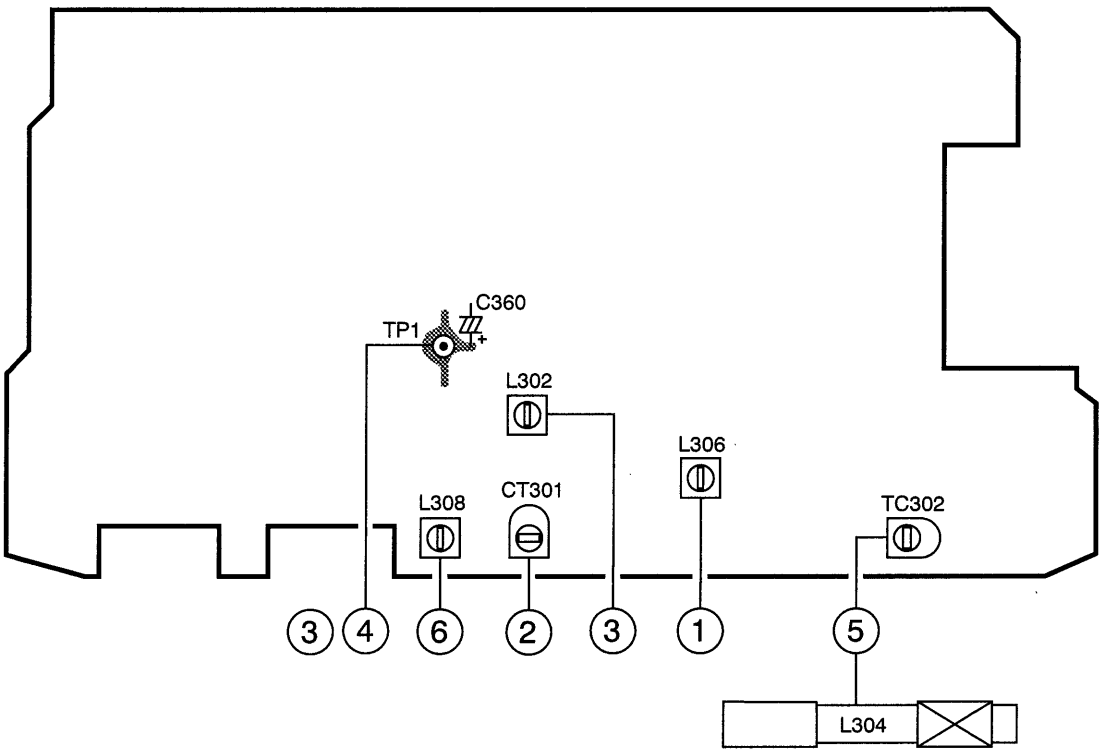




E

TUNER FLEX C.B (2/2)

B TUNER C.B



<RADIO SECTION>

1. AM IF Adjustment
   L306 ..... 450kHz

2. FM IF Adjustment
   CT301 ..... 10.7MHz

3. FM VT Adjustment
   Settings : • Test point : TP1
   • Adjustment location : L302
   Method : Set to FM 87.5MHz and adjust L302 so that the test point becomes 1.0V ± 0.05V. Set to FM 108MHz and TP1, check the voltage for less than 6.0V ~ 9.0V.

4. MW VT Check
   Settings : • Test point : TP1
   Method : Set to AM 530kHz (1710kHz) and TP1, check the voltage for 0.5V ~ 0.9V (less than 9.0V).

5. AM Tracking Adjustment
   L304 ..... 630kHz
   TC302 ..... 1440kHz

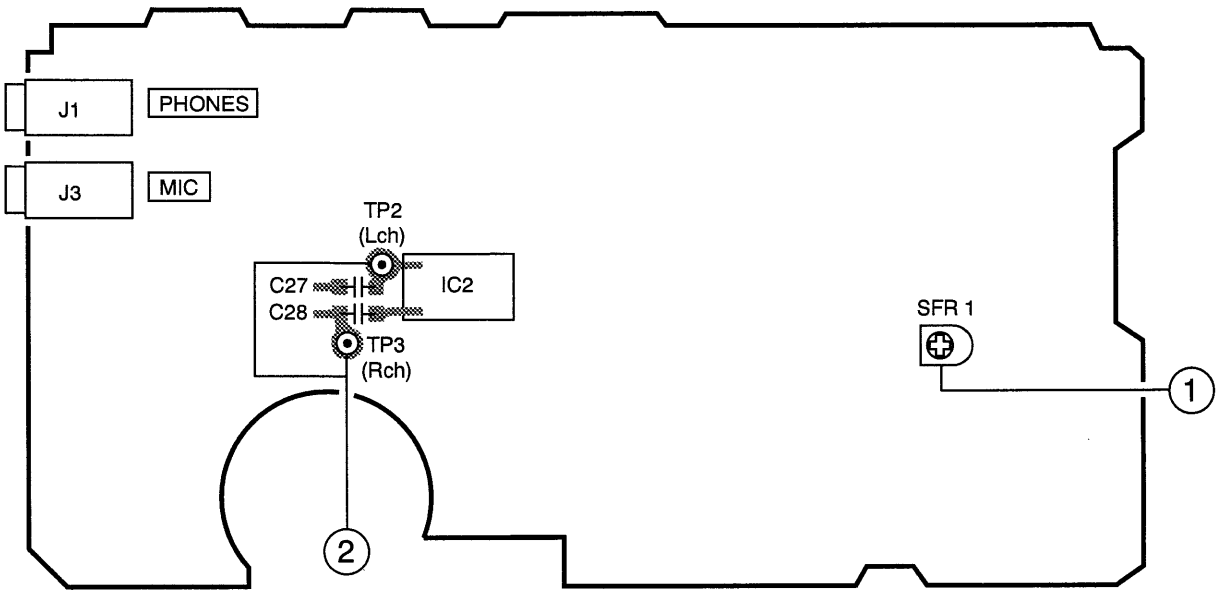
6. FM Tracking Adjustment
   L308 ..... 87.5MHz

PRACTICAL SERVICE FIGURE

<RADIO SECTION>

Sensitivity :		
(IHF, THD 3%)	FM	Less than 19dB (87.5 / 98.5 / 108.0MHz)
(S/N 10dB)	MW	Less than 58dB (630kHz)
		Less than 57dB (999kHz)
		Less than 56dB (1440kHz)
Intermediate frequency :	FM	10.7MHz
	MW	450kHz
FM stereo separation :	FM	More than 15dB (98.5MHz)

A MAIN C.B



<TAPE PLAYER SECTION>

1. Tape Speed Adjustment
   Settings : • Test tape : TTA–100
   • Test point : PHONES JACK (J1)
   • Adjustment location : SFR1
   • DOLBY NR : OFF
   • SUPER BASS : OFF
   Method : Play back the test tape, adjust for 3000Hz at FWD and ± 55Hz at REV.

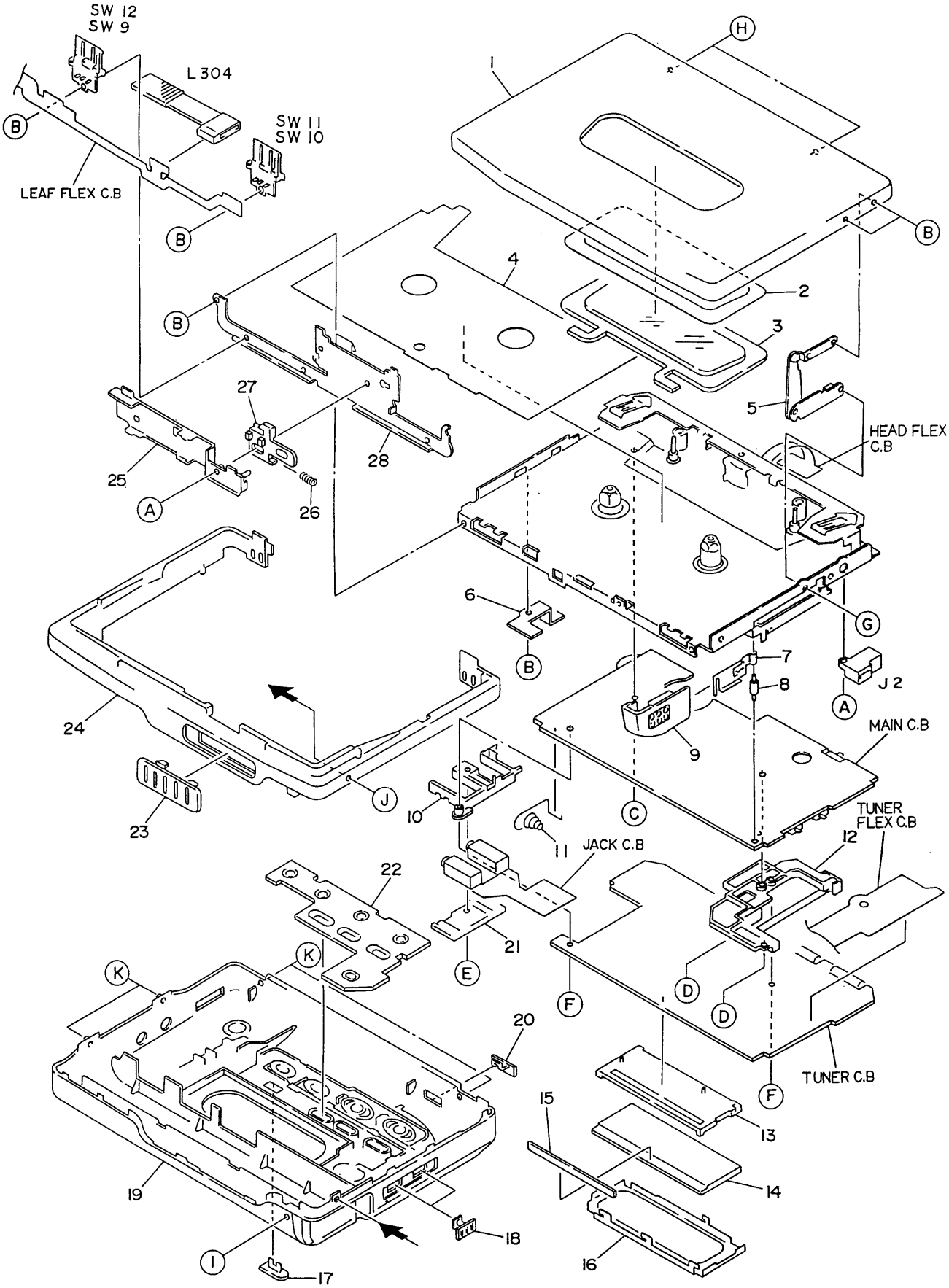
2. Dolby Level Check
   Settings : • Test tape : TTA–200
   • Test point : TP2 (Lch), TP3 (Rch)
   • DOLBY SW : OFF
   • SUPER BASS : OFF
   • VOLUME : MIN
   Method : Connect an electrolytic capacitor (10μF / 16V) to measured equipment and TP2 (3), check the voltage for 100mV ± 1.0dB.

PRACTICAL SERVICE FIGURE

<TAPE PLAYER SECTION>

Tape speed :	3015Hz ± 50Hz
Wow & flutter :	Less than 0.49% (RMS)
Pinch roller pressure :	130 ~ 160g (FWD, REV)
Take-up torque :	22 ~ 32g-cm (FWD, REV)
F.F torque :	70 ~ 140g-cm
REW torque :	60 ~ 100g-cm
Back tension :	2 ~ 4.5g-cm (FWD, REV)
S/N ratio :	More than 45dB (DC, PB)
Distortion :	Less than 3.0% (DC, PB)
Noise level :	Less than 3.0mV (Vol MAX, DC)
Frequency response :	63Hz ± 4dB ~ 8kHz ± 3.5dB (NORMAL)
	63Hz ± 4dB ~ 10kHz ± 3.5dB (CrO2, METAL)

MECHANICAL EXPLODED VIEW 1/1

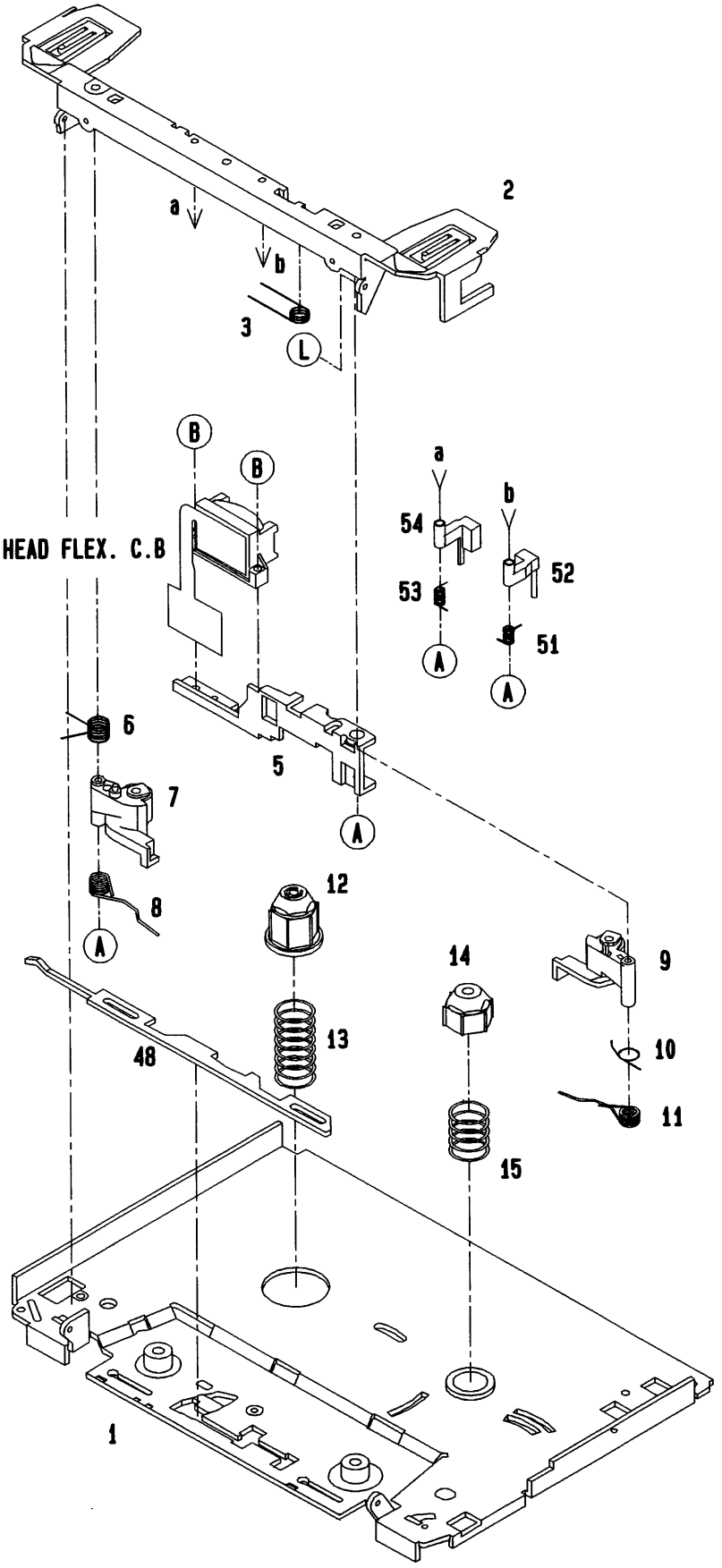


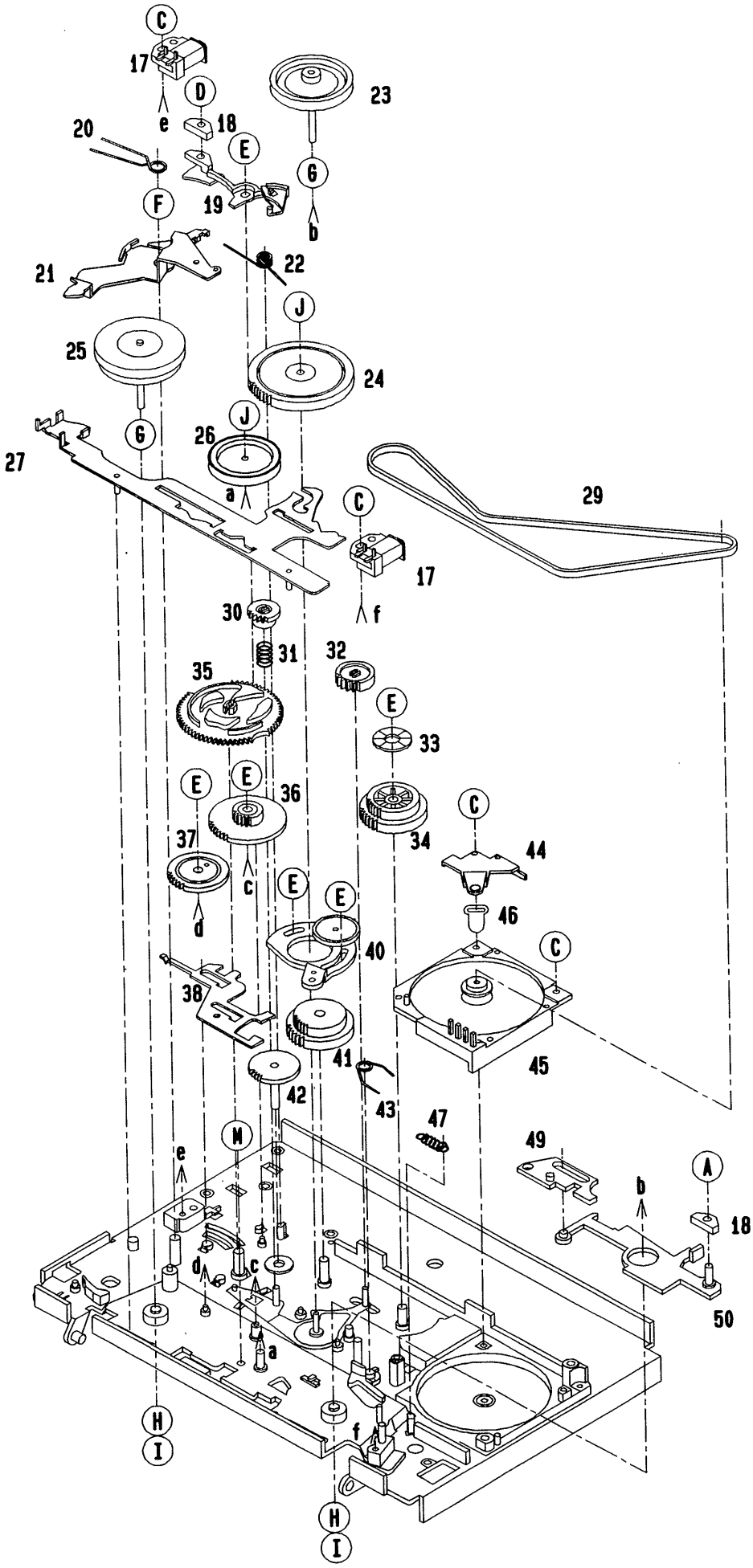
MECHANICAL PARTS LIST 1/1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	84-HJ4-002-010		LID,CASS ASSY<AH>
1	84-HJ9-003-010		LID,CASS ASSY<YE,Y>
2	84-HJ9-221-010		AD,SH CASS
3	84-HJ9-006-010		WINDOW,CASS
4	84-HJ9-020-010		PANEL,CHAS<YE,Y>
4	84-HJ4-020-010		PANEL,CHAS<AH>
5	84-HJ9-206-010		HINGE,CASS ASSY
6	84-HJ9-204-010		HLDR,AFCB
7	84-HJ9-211-010		BAT,CONT P
8	84-HJ9-210-010		SHAFT,BAT
9	84-HJ9-008-010		LID,BAT<YE,Y>
9	84-HJ4-009-010		LID,BAT J4<AH>
10	84-HJ9-201-010		HLDR,JACK
11	84-HJ9-212-010		BAT,CONT M
12	84-HJ9-225-010		HLDR,CB
13	84-HJ9-214-010		HLDR,LCD
14	84-HJ9-609-010		LCD
15	84-HJ9-223-010		RUBBER,LCD
16	84-HJ9-215-010		BRKT,LCD
17	84-HJ9-013-010		KNOB,SL HLD
18	84-HJ9-011-010		KNOB,SL SBASS
19	09-028-159-010		CAB,REAR ASSY<YE,Y>
19	09-028-160-010		CAB,REAR ASSY<AH>
20	84-HJ9-010-010		KNOB,SL OSC
21	84-HJ9-202-010		HLDR,JACK M
22	84-HJ9-015-010		KEY,RUBBER
23	84-HJ9-012-010		KNOB,SL OPEN
24	84-HJ9-002-010		FRAME,CENTER<YE,Y>
24	84-HJ4-008-010		FRAME,CENTER J4<AH>
25	84-HJ9-218-010		HLDR,ANTENNA
26	82-HK3-206-110		C-SP,LOCK
27	84-HJ9-219-010		LOCK,PLT
28	84-HJ9-216-010		HLDR,LOCK ASSY
A	87-067-733-010		S-SCREW1.4-4 B N
B	87-078-131-010		SCRW,M1.4-1.4 BL
C	87-067-746-010		SCREW,SERRAT M1.4-2
D	87-067-430-010		SCRW,VT1.4-5 B
E	87-078-116-010		SCRW,M1.4-2.5 B NL
F	87-078-112-010		S-SCRW+1.4-4HL(B)
G	87-078-107-010		S-SCRW,1.4-0.7 B NL
H	87-078-137-010		S-SCRW,+1.4-0.8-1 NL
I	87-262-511-310		MITE'S SCREW V+1.4-5B
J	87-078-147-010		SCREW,SERRAT M1.4-3 B
K	87-078-139-010		SCREW,SERRAT M1.4-2.5 B

TAPE MECHANISM EXPLODED VIEW 1/1

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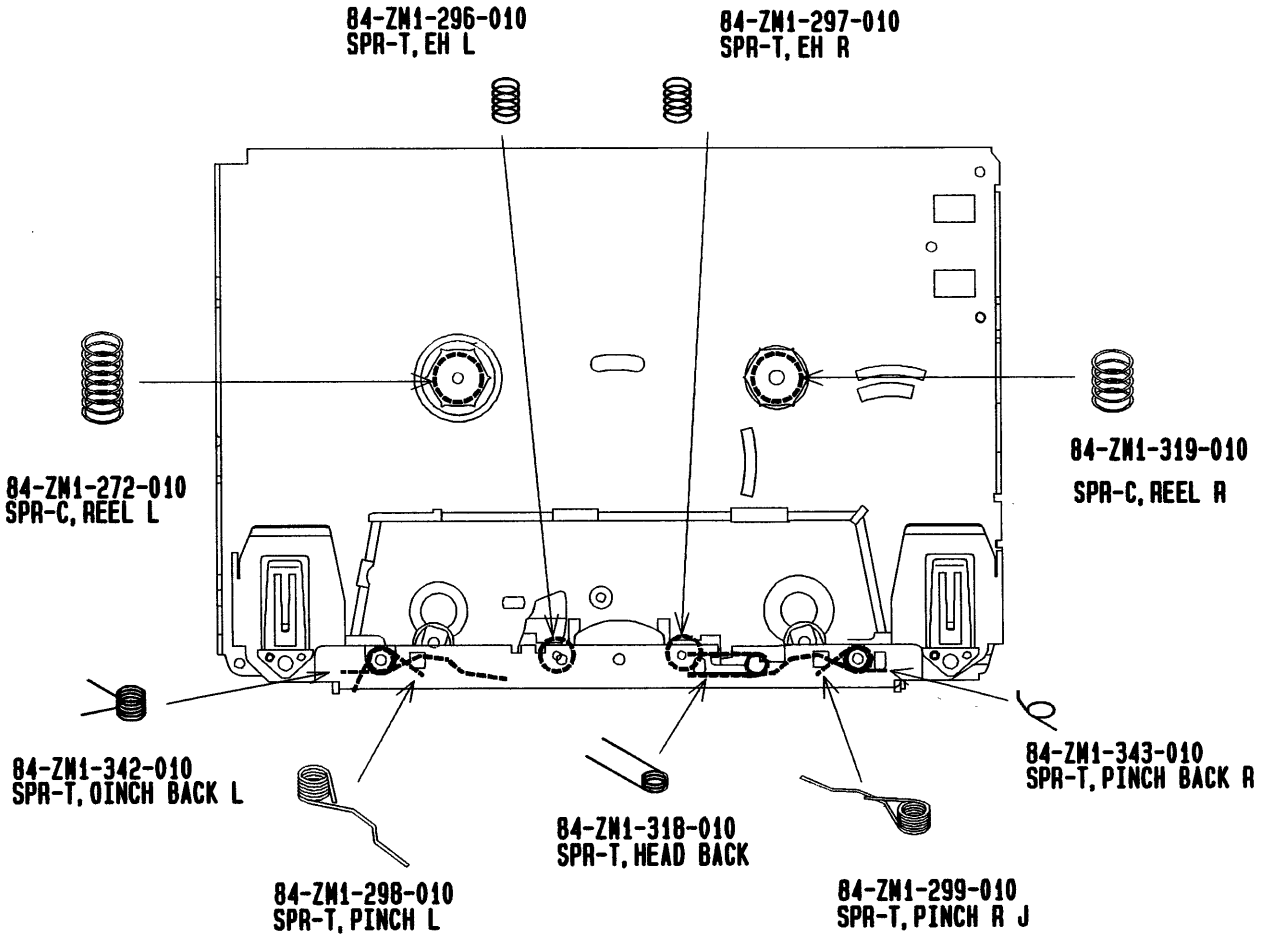
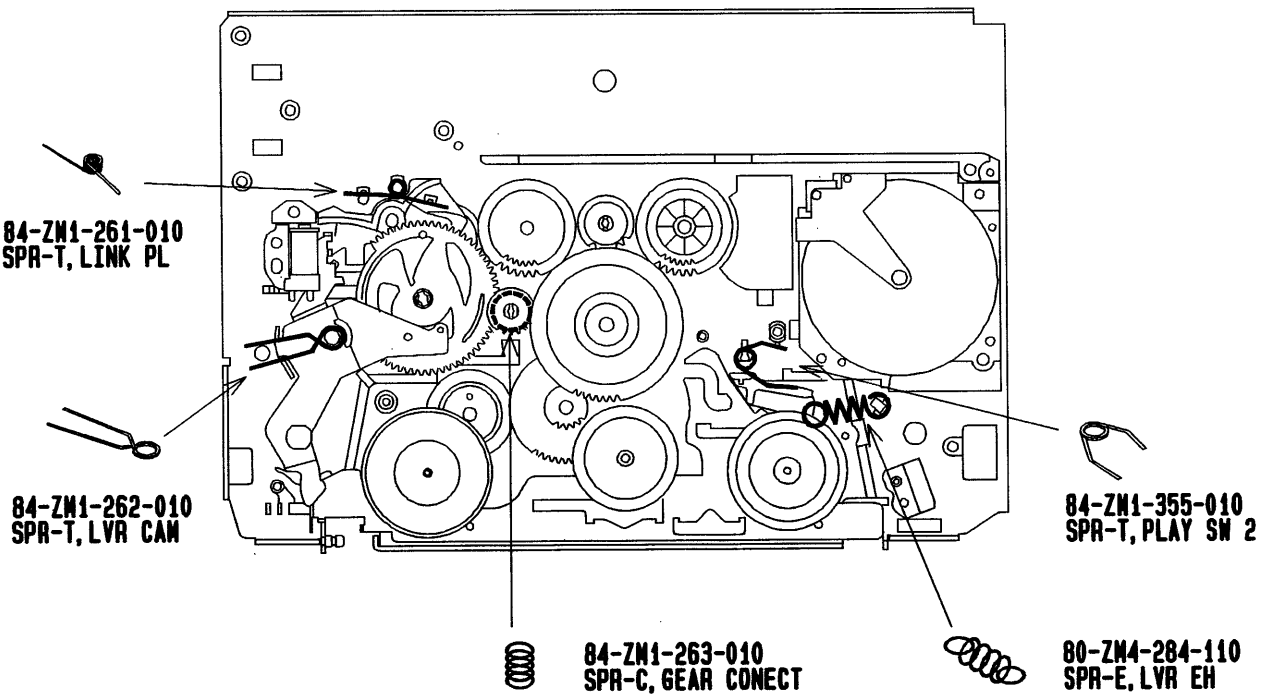
TAPE MECHANISM PARTS LIST 1/1

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	84-ZM1-301-010		OUT-SERT ASSY
2	84-ZM1-292-010		HLDER CASSET ASSY
3	84-ZM1-318-010		SPR-T,HEAD BACK
5	84-ZM1-270-010		ARM HEAD SN
6	84-ZM1-342-010		SPR-T PINCH BACK L
7	84-ZM1-258-010		ARM ASSY,PINCH L2
8	84-ZM1-298-010		SPR-T,PINCH L
9	84-ZM1-256-010		ARM ASSY,PINCH R2
10	84-ZM1-343-010		SPR-T PINCH BACK R
11	84-ZM1-299-010		SPR-T,PINCH R J
12	84-ZM1-227-110		GEAR REEL L
13	84-ZM1-272-010		SPR-C,REEL L
14	84-ZM1-220-110		REEL CAP,R
15	84-ZM1-319-010		SPR-C,REEL R
17	84-ZM1-605-010		SOL,MD REC
18	84-ZM1-602-010		CHIP,SOL
19	84-ZM1-309-110		LINK PLR
20	84-ZM1-262-010		SPR-T,LVR CAM
21	84-ZM1-204-010		LVR ASSY,CAM
22	84-ZM1-261-010		SPR-T,LINK PL
23	84-ZM1-316-010		FW ASSY L SM
24	84-ZM1-231-210		SLIP ASSY
25	84-ZM1-348-010		FW ASSY R OH
26	84-ZM1-280-010		PULLY PM
27	84-ZM1-306-010		LVR ASSY HEAD R
29	84-ZM1-315-010		BELT 2
30	84-ZM1-226-010		GEAR CAM C
31	84-ZM1-263-010		SPR-C,GEAR CONECT
32	84-ZM1-225-010		GEAR FR
33	84-ZM1-271-010		SH AUTO
34	84-ZM1-240-010		GEAR IDLE B
35	84-ZM1-221-110		GEAR CAM
36	84-ZM1-223-210		GEAR LINK B
37	84-ZM1-222-010		GEAR LINK A
38	84-ZM1-217-010		L,FR LOCK
40	84-ZM1-210-010		LVR ASSY,T-UP
41	84-ZM1-224-010		GEAR IDLE A
42	84-ZM1-228-010		GEAR REEL R
43	84-ZM1-355-010		SPR-T PLAY SW2
44	84-ZM1-379-010		SPR-P,MOT
45	84-ZM1-359-010		MOT,ASSY 4P
46	84-ZM1-383-010		THRUST PLATE
47	80-ZM4-284-110		SPT-E,LVR EH
48	84-ZM1-281-010		LVR ASSY,EH
49	84-ZM1-285-110		LINK REC
50	84-ZM1-287-010		LVR ASSY,REC PL
51	84-ZM1-297-010		SPR-T,EH R
52	84-ZM1-295-110		EH R
53	84-ZM1-296-010		SPR-T,EH L
54	84-ZM1-294-110		EH L
A	87-067-569-010		PW0.83-2.5-0.25
B	87-078-088-010		S-SCREW,V+1.4-3.5
C	87-067-384-010		VT1.4-3.5HL
D	87-067-367-010		PW,0.95-2.6-0.25 C
E	87-067-860-010		PW,3-0.95-0.4
F	87-078-018-010		PW,1.55-3.5-0.25 C60
G	87-078-071-110		SW,1.2-3-0.25
H	87-078-101-010		RW,1.21-2.4-0.25
I	87-078-065-010		SH,0.9-2.25-0.25 SLT
J	87-067-693-010		PW,3-0.8-0.25 SLT
L	87-078-087-010		PW,1-3-0.4 C60
M	87-078-125-010		SCREW,V+1.4-0.9

SPRING APPLICATION POSITION





ACCESSORIES / PACKAGE LIST

If can't understand for Description please kindly refer to " REFERENCE NAME LIST ".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	84-HJ9-951-010		CARRING,CASE
2	87-041-073-010		CM-S35A
3	87-048-296-010		HP-R46NA
4	84-HJ9-901-010		IB,EX-ESC-J
5	84-HJ9-902-010		IB,EX-GFI-J<YE>
6	87-042-178-019		RB-105H<AH>
7	87-047-152-010		BAT,NB-3AP<AH>

REFERENCE NAME LIST

ELECTRICAL SECTION

DESCRIPTION	REFERENCE NAME
ANT	ANTENNAS
C-	CHIP
C-CAP	CAP, CHIP
C-CAP TN	CAP, CHIP TANTALUM
C-COIL	COIL, CHIP
C-DI	DIODE, CHIP
C-DIODE	DIODE, CHIP
C-FET	FET, CHIP
C-FOTR	FILTER, CHIP
C-JACK	JACK, CHIP
C-LED	LED, CHIP
C-RES	RES, CHIP
C-SFR	SFR, CHIP
C-SLIDE SW	SLIDE SWITCH, CHIP
C-SW	SWITCH, CHIP
C-TR	TRANSISTOR, CHIP
C-VR	VOLUME, CHIP
C-ZENER	ZENER, CHIP
CAP, CER	CAP, CERA-SOL
CAP, E	CAP, ELECT
CAP, M/F	CAP, FILM
CAP, TC	CAP, CERA-SOL
CAP, TC-U	CAP, CERA-SOL SS
CAP, TN	CAP, TANTALUM
CERA FIL	FILTER, CERAMIC
CF	FILTER, CERAMIC
DL	DELAY LINE
E/CAP	CAP, ELECT
FILT	FILTER
FLTR	FILTER
FUSE RES	RES, FUSE
MOT	MOTOR
P-DIODE	PHOTO DIODE
P-SNSR	PHOTO SENSER
P-TR	PHOTO TRANSISTOR
POLY VARI	VARIABLE CAPACITOR
PPCAP	CAP, PP
PT	POWER TRANSFORMER
PTR, RES	PTR, MELF
RC	REMOTE CONTROLLER
RES NF	RES, NON-FLAMMABLE
RESO	RESONATOR
SHLD	SHIELD
SOL	SOLENOID
SPKR	SPEAKER
SW, LVR	SWITCH, LEVER
SW, RTRY	SWITCH, ROTARY
SW, SL	SWITCH, SLIDE
TC CAP	CAP, SERA-SOL
THMS	THERMISTOR
TR	TRANSISTOR
TRIMER	CAP, TRIMER
TUN-CAP	VARIABLE CAPACITOR
VIB, CER	RESONATOR, CERAMIC
VIB, XTAL	RESONATOR, CRYSTAL
VR	VOLUME
ZENER	DIODE, ZENER

MECHANICAL SECTION

DESCRIPTION	REFERENCE NAME
ADHESHIVE	SHEET ADHESHIVE
AZ	AZIMUTH
BAR-ANT	BAR-ANTENNA
BAT	BATTERY
BATT	BATTERY
BRG	BEARING
BTN	BUTTON
CAB	CABINET
CASS	CASSETTE
CHAS	CHASSIS
CLR	COLLAR
CONT	CONTROL
CRSR	CURSOR
CU	CUSHION
CUSH	CUSHION
DIR	DIRECTION
DUBB	DUBBING
FL	FRONT LOADING
FLY-WHL	FLYWHEEL
FR	FRONT
FUN	FUNCTION
G-CU	G-CUSHION
HDL	HANDOL
HIMERON	CLOTH
HINGE, BAT	HINGE, BATTERY
HLDR	HOLDER
HT-SINK	HEAT SINK
IB	INSTRUCTION BOOKLET
IDLE	IDLER
IND, L-R	INDICATOR, L-R
KEY, CONT	KEY, CONTROL
KEY, PRGM	KEY, PROGRAM
KNOB, SL	KNOB, SLIDE
LBL	LABEL
LID, BATT	LID, BATTERY
LID, CASS	LID, CASSETTE
LVR	LEVER
P-SP	P-SPRING
PANEL, CONT	PANEL, CONTROL
PANEL, FR	PANEL, FRONT
PRGM	PROGRAM
PULLY, LOAD MO	PULLY, LOAD MOTOR
RBN	RIBBON
S-	SPECIAL
SEG	SEGMENT
SH	SHEET
SHLD-SH	SHIELD-SHEET
SL	SLIDE
SP	SPRING
SP-SCREW	SPECIAL-SCREW
SPACER, BAT	SPACER, BATTERY
SPR	SPRING
SPR-P	P-SPRING
SPR-PC-PUSH	P-SPRING, C-PUSH
T-SP	T-SPRING
TERM	TERMINAL
TRIG	TRIGGER
TUN	TUNING
VOL	VOLUME
W	WASHER
WHL	WHEEL
WORM-WHL	WORM-WHEEL

サービス技術ニュース	
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