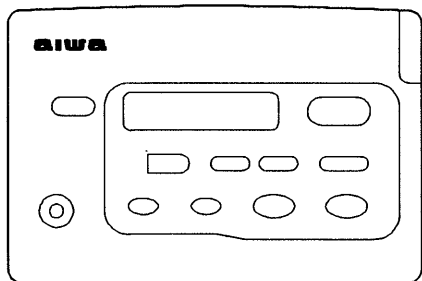


aiwa



HS-JX649 HS-JX749



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)
Tape playback (EIAJ, 1 mW)

Battery life : 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 (4³/₈ x 3¹/₈ x 1³/₁₆ 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.

MANUAL
SERVICE

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.

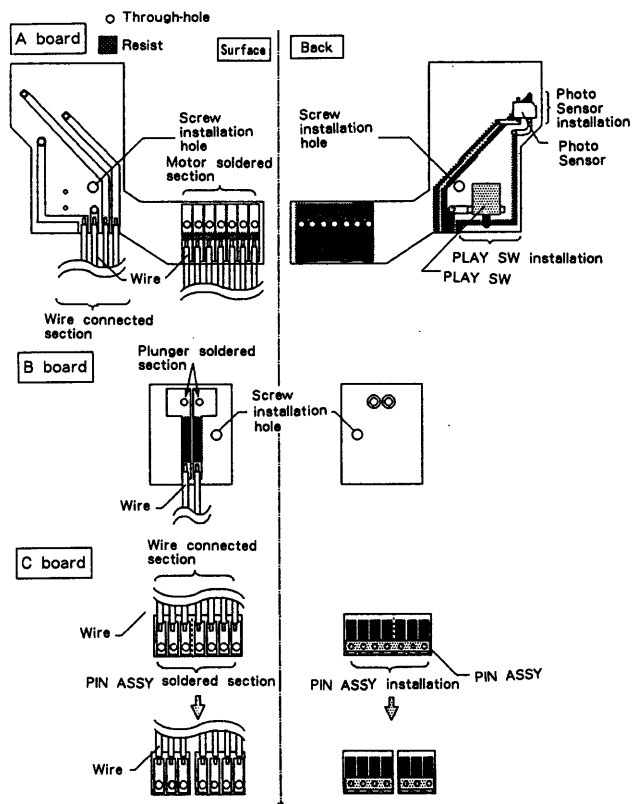
Use a jig (for the 4ZM-1) to check operation with the main circuit board open.

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

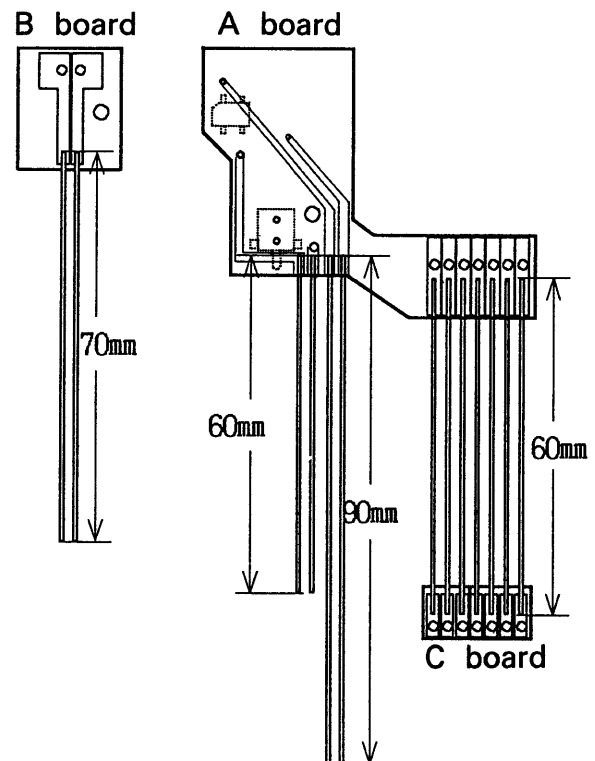
1. Assembling the Jig

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 ④ and ⑤ to the PHOTO SENSOR.
- Solder wires ③ and ⑥ 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 ⑦ and ⑧ to plunger land on the MAIN board.

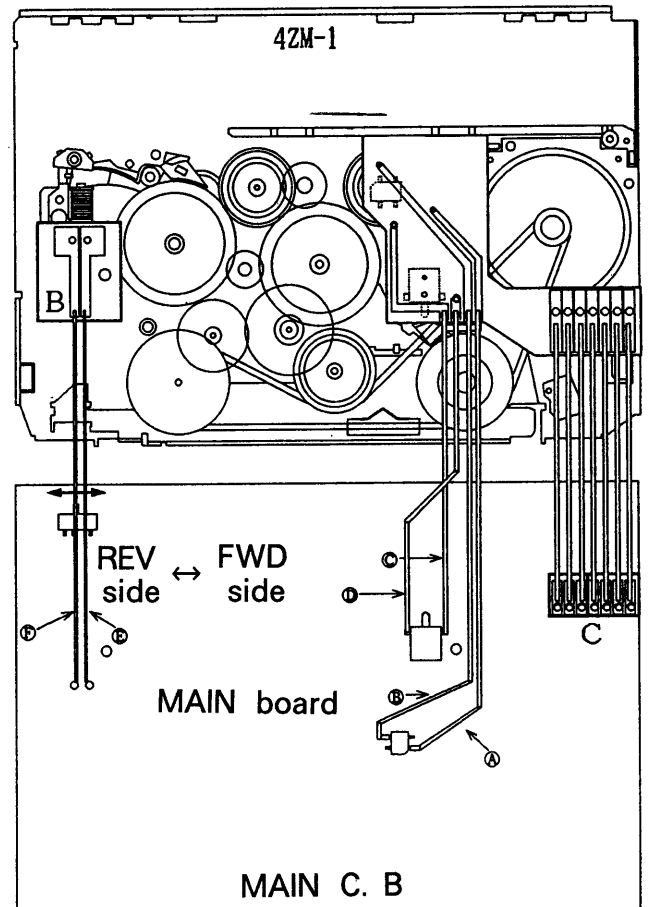
C board

- 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

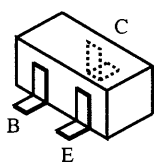
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC				C21	87-012-286-080		C-CAP,U 0.01-25 B
	87-001-894-080	IC,TA8155FN		C22	87-012-286-080		C-CAP,U 0.01-25 B
	87-001-875-080	IC,BA1106FS		C23	87-010-828-080		C-CAP,U 0.033-16 F
	87-020-234-080	IC,TA7688F		C24	87-010-828-080		C-CAP,U 0.033-16 F
	87-002-406-080	IC,TPIC326ADB		C25	87-010-831-080		C-CAP,U 0.1-16 F
	87-017-793-080	IC,P-SNSR,GP2L27		C26	87-010-831-080		C-CAP,U 0.1-16 F
	87-001-931-080	IC,TA8152FN		C27	87-016-314-080		C-CAP,S 1-16 F
	87-001-971-080	IC,TA8132AF		C28	87-016-314-080		C-CAP,S 1-16 F
	87-017-946-010	IC,TC9317-011		C29	87-010-831-080		C-CAP,U 0.1-16 F
	87-017-686-080	IC,AK93C45LF		C30	87-010-831-080		C-CAP,U 0.1-16 F
	87-001-151-080	IC,TD6134F		C31	87-016-314-080		C-CAP,S 1-16 F
	87-001-145-080	IC,TA8126F		C32	87-016-314-080		C-CAP,S 1-16 F
	87-017-643-080	IC,MM1206XF<YE,Y>		C35	87-010-179-080		C-CAP,S 1200P-50 B
	87-017-540-080	IC,MM1209XF<AH>		C36	87-010-179-080		C-CAP,S 1200P-50 B
	87-070-076-040	IC,PST9015		C37	87-012-141-080		C-CAP,S 0.22-16 F
TRANSISTOR				C38	87-012-141-080		C-CAP,S 0.22-16 F
	89-508-804-080	C-FET,2SK880Y		C39	87-010-853-080		C-CAP,E 220-4V H5.5
	87-026-585-080	C-TR,IMX1 HQQ		C40	87-010-944-080		C-CAP,E 220-4
	87-026-414-080	C-TR,RN1307		C41	87-010-944-080		C-CAP,E 220-4
	87-026-475-080	C-TR,RN1607		C42	87-016-225-080		C-CAP,TN 100-4 F95
	87-026-476-080	C-TR,RN1610		C43	87-016-867-080		C-CAP,TN 10-4
	87-026-418-080	C-TR,RN1311		C44	87-010-867-080		C-CAP,TN 10-4
	87-026-412-080	C-TR,RN1305		C51	87-016-296-080		C-CAP,TN 22-4 SV(A)
	89-113-625-080	C-TR,2SA1362GR		C52	87-010-851-080		C-CAP,E 47-4V H5.5
	87-026-474-080	C-TR,RN1605		C53	87-016-296-080		C-CAP,TN 22-4 SV(A)
	89-115-864-080	C-TR,2SA1586Y		C54	87-010-831-080		C-CAP,U 0.1-16 F
	89-342-132-080	C-TR,2SC4213B		C55	87-010-830-080		C-CAP,U 0.068-16 F
	87-026-423-080	C-TR,RN2305		C56	87-016-057-080		C-CAP,TN 47-4 F95
	89-342-153-080	C-TR,2SC42150		C57	87-016-296-080		C-CAP,TN 22-4 SV(A)
	87-026-601-080	C-TR,UMD6		C58	87-012-286-080		C-CAP,U 0.01-25 B
	87-026-660-080	C-TR,UM21<AH>		C59	87-010-853-080		C-CAP,E 220-4V H5.5
	89-508-824-080	C-FET,2SK882Y		C60	87-016-057-080		C-CAP,TN 47-4 F95
	87-026-535-080	C-TR,RN4907		C61	87-015-923-080		C-CAP,TN 0.22-35
	87-026-343-080	C-TR,DTC123JU		C62	87-015-923-080		C-CAP,TN 0.22-35
	89-341-165-080	C-TR,2SC4116GR		C63	87-010-198-080		C-CAP,S 0.022-25 B
	87-026-346-080	C-TR,DTC114YU		C64	87-010-198-080		C-CAP,S 0.022-25 B
	87-026-342-080	C-TR,DTC144EU		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
DIODE				C69	87-016-296-080		C-CAP,TN 22-4 SV(A)
	87-017-779-080	C-DIODE,1SS355		C70	87-010-746-080		C-CAP,TN 10-4 A
	87-001-167-080	C-DIODE,1SS302		C71	87-012-274-080		C-CAP,U 1000P-50 B
	87-001-166-080	C-DIODE,1SS301		C72	87-012-140-080		C-CAP,S 470P-50 CH
	87-017-367-080	C-DIODE,DAP 202U		C73	87-012-140-080		C-CAP,S 470P-50 CH
MAIN C.B				C74	87-010-182-080		C-CAP,S 2200P-50 B
C1	87-016-314-080	C-CAP,S 1-16 F		C75	87-012-286-080		C-CAP,U 0.01-25 B
C2	87-016-314-080	C-CAP,S 1-16 F		C76	87-012-286-080		C-CAP,U 0.01-25 B
C3	87-012-195-080	C-CAP,U 100P-50 CH		C77	87-016-314-080		C-CAP,S 1-16 F
C4	87-012-195-080	C-CAP,U 100P-50 CH		C78	87-010-424-080		C-CAP,TN 4.7-4
C5	87-012-274-080	C-CAP,U 1000P-50 B		C79	87-010-183-080		C-CAP,S 2700P-50 B
C6	87-012-274-080	C-CAP,U 1000P-50 B		C80	87-012-286-080		C-CAP,U 0.01-25 B
C7	87-010-175-080	C-CAP,S 560P-50 SL		C81	87-012-286-080		C-CAP,U 0.01-25 B
C8	87-010-175-080	C-CAP,S 560P-50 SL		C82	87-010-867-080		C-CAP,TN 10-4
C9	87-010-958-080	C-CAP,S 0.01-25 BJ		C91	87-010-522-080		C-CAP,TN 2.2-10
C10	87-010-958-080	C-CAP,S 0.01-25 BJ		C92	87-010-505-080		C-CAP,TN 1-16
C11	87-016-296-080	C-CAP,TN 22-4 SV(A)		C101	87-012-286-080		C-CAP,U 0.01-25 B
C12	87-016-296-080	C-CAP,TN 22-4 SV(A)		C103	87-016-196-080		C-CAP,S 0.1-25 F
C13	87-010-198-080	C-CAP,S 0.022-25 B		C104	87-016-461-080		C-CAP,S 0.47-16 F
C14	87-010-198-080	C-CAP,S 0.022-25 B		C105	87-010-194-080		C-CAP,S 0.047-25 F
C15	87-016-314-080	C-CAP,S 1-16 F		C106	87-010-504-080		C-CAP,TN 0.47-25
C16	87-016-314-080	C-CAP,S 1-16 F		C107	87-010-504-080		C-CAP,TN 0.47-25
C17	87-010-828-080	C-CAP,U 0.033-16 F		C108	87-010-831-080		C-CAP,U 0.1-16 F
C18	87-010-828-080	C-CAP,U 0.033-16 F		C109	87-012-142-080		C-CAP,S 0.33-16 F
C19	87-012-282-080	C-CAP,U 4700P-50 B		C110	87-010-522-080		C-CAP,TN 2.2-10
C20	87-012-282-080	C-CAP,U 4700P-50 B		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

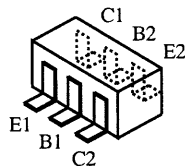
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
L4	87-003-369-080		C-COIL,U 3.3UH K	C348	87-012-169-080		C-CAP,U 7P-50 CH
L6	87-003-369-080		C-COIL,U 3.3UH K	C349	87-010-831-080		C-CAP,U 0.1-16 F
L7	87-007-246-080		C-COIL,OSC BIAS	C350	87-016-296-080		C-CAP,TN 22-4 SV(A)
R3	87-022-283-080		C-RES,U 820-1/16W F	C351	87-010-831-080		C-CAP,U 0.1-16 F
R4	87-022-283-080		C-RES,U 820-1/16W F	C352	87-010-831-080		C-CAP,U 0.1-16 F
R5	87-022-283-080		C-RES,U 820-1/16W F	C353	87-012-286-080		C-CAP,U 0.01-25 B
R6	87-022-283-080		C-RES,U 820-1/16W F	C354	87-010-805-080		C-CAP,S 1-16 F
R9	87-022-243-080		C-RES,U 15K-1/16W F	C355	87-012-286-080		C-CAP,U 0.01-25 B
R10	87-022-243-080		C-RES,U 15K-1/16W F	C356	87-012-195-080		C-CAP,U 100P-50 CH<YE,Y>
R11	87-022-292-080		C-RES,U 330K-1/16W F	C357	87-012-286-080		C-CAP,U 0.01-25 B
R12	87-022-292-080		C-RES,U 330K-1/16W F	C358	87-012-286-080		C-CAP,U 0.01-25 B
R112	87-022-037-080		M-RES,TH 0.68-4300	C359	87-010-787-080		C-CAP,U 0.022-25 B
SFR1	87-024-657-080		C-SFR,6.8K EVM 3SS	C360	87-010-505-080		C-CAP,TN 1-16
SW1	87-036-244-080		C-SW,SLIDE 1-2-2(NC)	C361	87-010-805-080		C-CAP,S 1-16 F
SW2	87-036-373-080		C-SW,SLIDE 1-1-2(E)	C362	87-012-142-080		C-CAP,S 0.33-16 F
SW3	87-036-373-080		C-SW,SLIDE 1-1-2(E)	C363	87-012-199-080		C-CAP,U 220P-50 CH
SW4	87-036-237-080		C-SW,PUSH	C364	87-012-195-080		C-CAP,U 100P-50 CH
SW5	80-2M4-605-010		SW,LEAF REC	C365	87-012-172-080		C-CAP,U 10P-50 CH
SW6	87-036-373-080		C-SW,SLIDE 1-1-2(E)	C366	87-012-276-080		C-CAP,U 1500P-50 B
SW7	87-036-236-080		C-SW,SLIDE 1-1-2(NC)	C367	87-016-296-080		C-CAP,TN 22-4 SV(A)
VR1	87-024-654-010		VR,20KA DIA 14	C368	87-012-176-080		C-CAP,U 15P-50 CH
TUNER C.B				C369	87-010-196-080		C-CAP,S 0.1-25 F
	87-008-440-080		C-FILTER,KIT 10.7,AE	C370	87-010-482-010		CAP,E 220-4
BPF1	87-008-406-080		BPF,GFMB1	C371	87-010-482-010		CAP,E 220-4
C301	87-012-195-080		C-CAP,U 100P-50 CH	C376	87-010-805-080		C-CAP,S 1-16 F
C303	87-012-275-080		C-CAP,U 1200P-50 B	C377	87-012-286-080		C-CAP,U 0.01-25 B
C304	87-012-193-080		C-CAP,U 82P-50 CH	C378	87-010-805-080		C-CAP,S 1-16 F
C307	87-010-316-080		C-CAP,S 33P-50 CH	C379	87-012-286-080		C-CAP,U 0.01-25 B
C309	87-012-286-080		C-CAP,U 0.01-25 B	C380	87-016-436-080		C-CAP,TN 47-4(B2)
C311	87-010-319-080		C-CAP,S 56P-50 CH	C381	87-012-286-080		C-CAP,U 0.01-25 B
C312	87-012-164-080		C-CAP,U 2P-50 CK	C382	87-012-286-080		C-CAP,U 0.01-25 B
C313	87-010-197-080		C-CAP,S 0.01-25 B	C383	87-012-286-080		C-CAP,U 0.01-25 B
C314	87-012-286-080		C-CAP,U 0.01-25 B	C384	87-012-349-080		C-CAP,S 1000P-50 CH
C315	87-010-831-080		C-CAP,U 0.1-16 F	C385	87-012-349-080		C-CAP,S 1000P-50 CH
C316	87-012-286-080		C-CAP,U 0.01-25 B	CF303	87-008-540-080		C-FLTR,PFBF450
C317	87-012-274-080		C-CAP,U 1000P-50 B	CT301	87-011-192-080		C-TRIMER,CT230C
C318	87-012-286-080		C-CAP,U 0.01-25 B	D311	87-001-708-080		C-VARACTOR,1SV228
C319	87-010-186-080		C-CAP,S 4700P-50 B	D313	87-026-435-080		C-VARICAP,KV1560
C320	87-012-286-080		C-CAP,U 0.01-25 B	D314	87-070-078-080		C-LED,SML-010 MT
C321	87-012-252-080		C-CAP,U 30P-50 UJ	D315	87-070-077-080		C-LED,SML-010 DT
C322	87-010-174-080		C-CAP,S 470P-50 SL	D316	87-070-079-080		C-LED,SML-010 VT
C324	87-012-282-080		C-CAP,U 4700P-50 B	D317	87-001-708-080		C-VARACTOR,1SV228
C325	87-016-436-080		C-CAP,TN 47-4(B2)	L301	87-005-564-080		C-COIL,S 2.2UH K
C326	87-010-198-080		C-CAP,S 0.022-25 B	L302	81-HJ1-622-080		COIL,FM OSC Y(R)
C327	87-010-829-080		C-CAP,U 0.047-16 F	L305	87-003-247-080		C-COIL,100UH J
C328	87-010-424-080		C-CAP,TN 4.7-4	L306	87-005-788-080		C-IFT,AM(450K)
C329	87-012-282-080		C-CAP,U 4700P-50 B	L307	87-005-789-080		C-COIL,DD-CON(796K)
C330	87-012-141-080		C-CAP,S 0.22-16 F<YE,Y>	L308	81-HJ1-623-080		COIL,FM RF Y(R)
C330	87-010-805-080		C-CAP,S 1-16 F<AH>	L309	84-HJ9-616-010		COIL,LOADING 3.3
C331	87-012-141-080		C-CAP,S 0.22-16 F<YE,Y>	SW306	87-036-382-080		C-SW,TACT(HKW0652)
C331	87-010-805-080		C-CAP,S 1-16 F<AH>	SW307	87-036-382-080		C-SW,TACT(HKW0652)
C332	87-012-280-080		C-CAP,U 3300P-50 B	SW311	87-036-123-080		C-SW,SLIDE 1-1-2
C333	87-012-286-080		C-CAP,U 0.01-25 B	TC302	87-011-189-080		C-TRIMER,CT2-10A
C334	87-012-286-080		C-CAP,U 0.01-25 B	X302	87-030-385-080		C-VIB,CER(456KHZ)
C335	87-010-831-080		C-CAP,U 0.1-16 F	X303	87-030-393-080		C-VIB,XTAL 75K KS309
C336	87-010-831-080		C-CAP,U 0.1-16 F	HEAD FLEX C.B			
C337	87-010-830-080		C-CAP,U 0.068-16 F	PH	84-HJ2-611-010		HEAD,RPH ASSY
C338	87-010-805-080		C-CAP,S 1-16 F	JACK C.B			
C339	87-012-199-080		C-CAP,U 220P-50 CH	J1	84-HJ9-607-010		PWB,FLEX JACK 8P
C340	87-010-831-080		C-CAP,U 0.1-16 F	J3	87-009-733-010		JACK,3.5 BLK 5P
C341	87-010-787-080		C-CAP,U 0.022-25 B		87-009-734-010		JACK,3.5 BLK 3P
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				

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

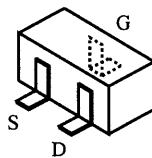
TRANSISTOR ILLUSTRATION



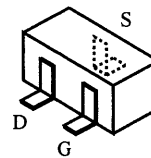
2SA1362
2SA1586
2SC4116
2SC4213
2SC4215
DTC114YU
DTC123JU
DTC144EU
RN1305
RN1307
RN1311
RN2305



IMX1
RN1605
RN1607
RN1610
RN4907
UMD6
UMZ1



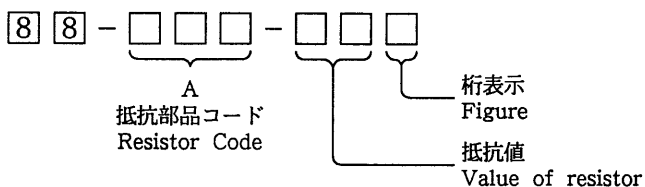
2SK880



2SK882

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

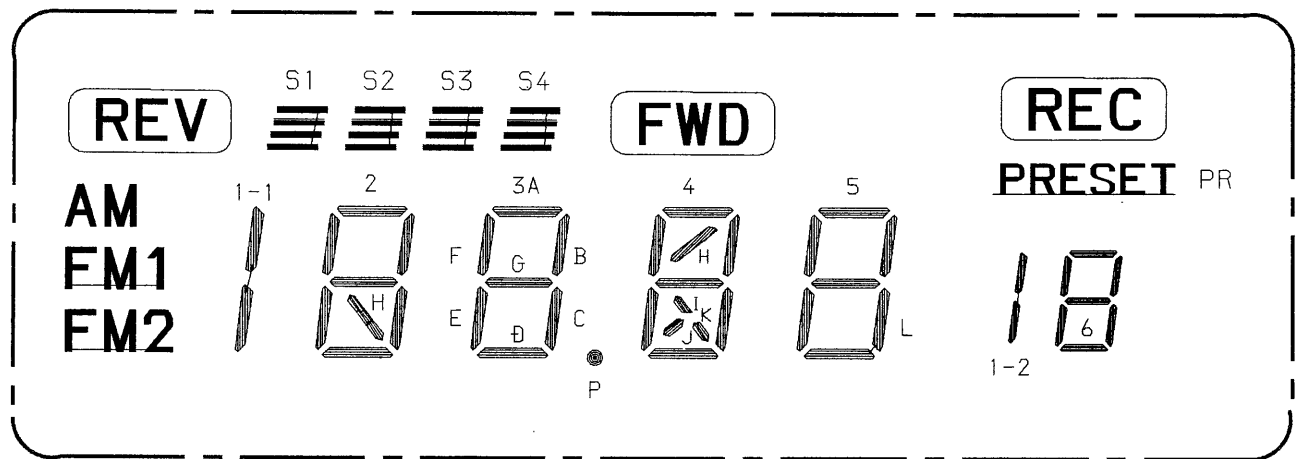
チップ抵抗部品コードの成り立ち
Chip Resistor Part Coding



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)				Resistor Code : A 抵抗コード : A
				Form/外形	L	W	t	
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	2D	2C	2B
10	—	3F	S3
11	3E	3G	3A
12	3D	3C	3B
13	4E	4F	S4
14	FWD	4H	4A
15	4I	4G	4B
16	4J	4K	4C
17	P	4D	REC
18	—	5E	5F
19	5L	5G	5A
20	—	5B	—
21	—	1-2	PR
22	—	6E	6F
23	6D	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.

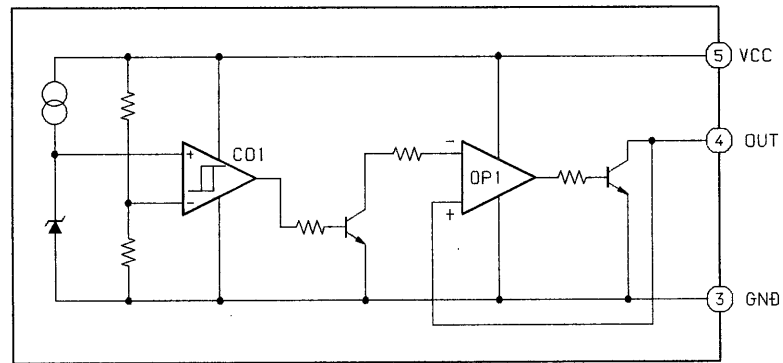
Pin No.	Pin Name	I/O	Description
41	REMOTE ON	I	H : Possible remote controller key input, L : Impossible remote controller key input.
42	REMOTE IN	I	Remote controller key input terminal.
43	AUTO STOP IN	I	Detects tape running. Input P - SNSR output waveform.
44	V REF	I	Inputs power for decide remote 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 ² PROM IC.
60	SCK	I/O	Clock signal of E ² PROM IC.
61	SDATA	I/O	Data communications with E ² PROM 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

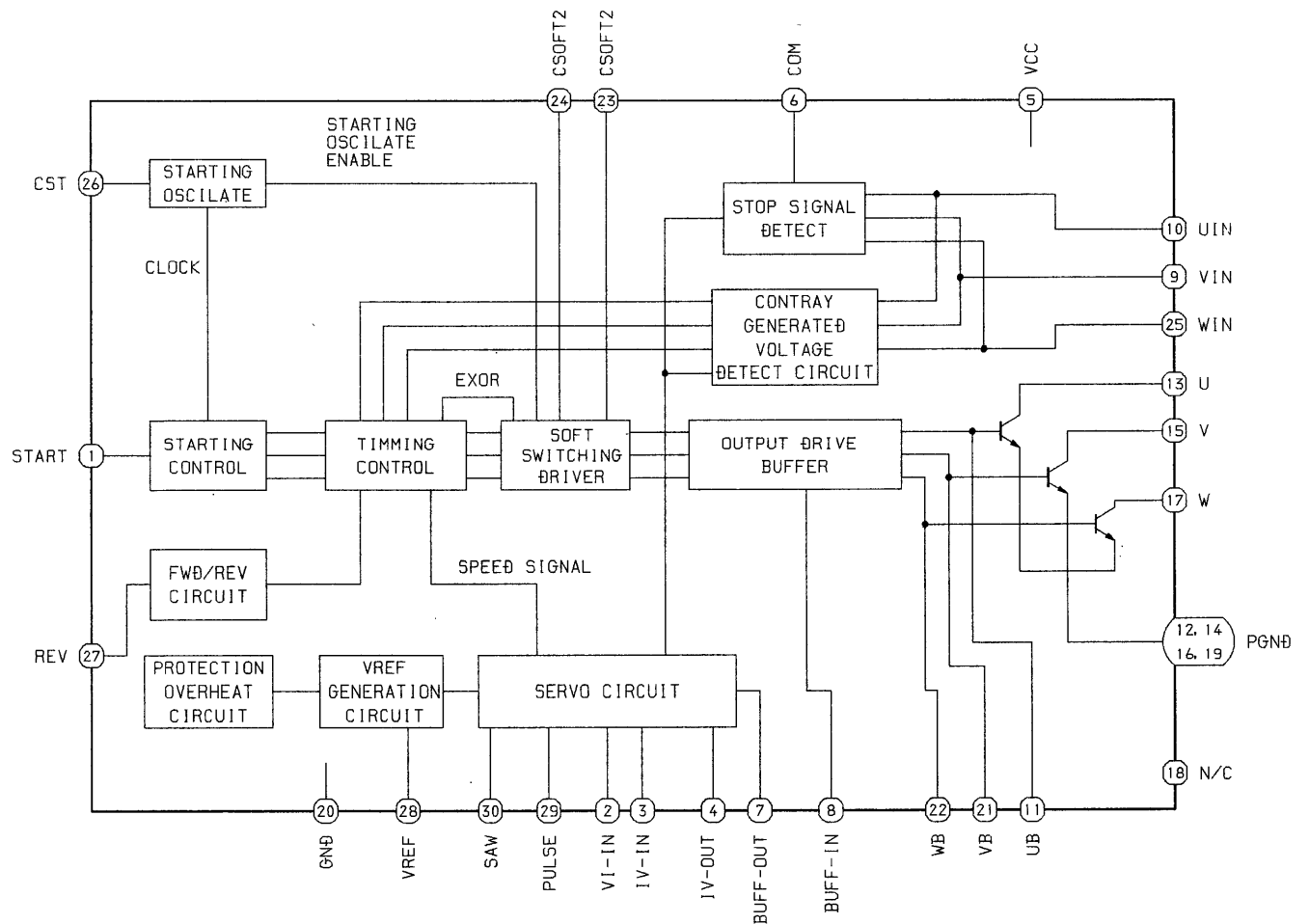
	K0	K1	K2	K3	
	FUNCTION	STOP	FF	REC	
P1 - 0	REW	REPEAT	PLAY		P1 - 0
P1 - 1	PRESET 1	PRESET 2	PRESET 3	PRESET 4	P1 - 1
KR0	PRESET 5	PRESET 6	PRESET + 5		KR0
KR1	UP	DOWN	ENTER		KR1
KR2	DISP 1	DISP 2	BBE 1	BBE 2	KR2
KR3	ZN 1	ZN 2	ZN 3	REC + B	KR3
KR4	DOLBY	PLSS	ALL LCD LIGHTS	EPROM RESET	KR4
KR5	IF SW	IF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

IC BLOCK DIAGRAM

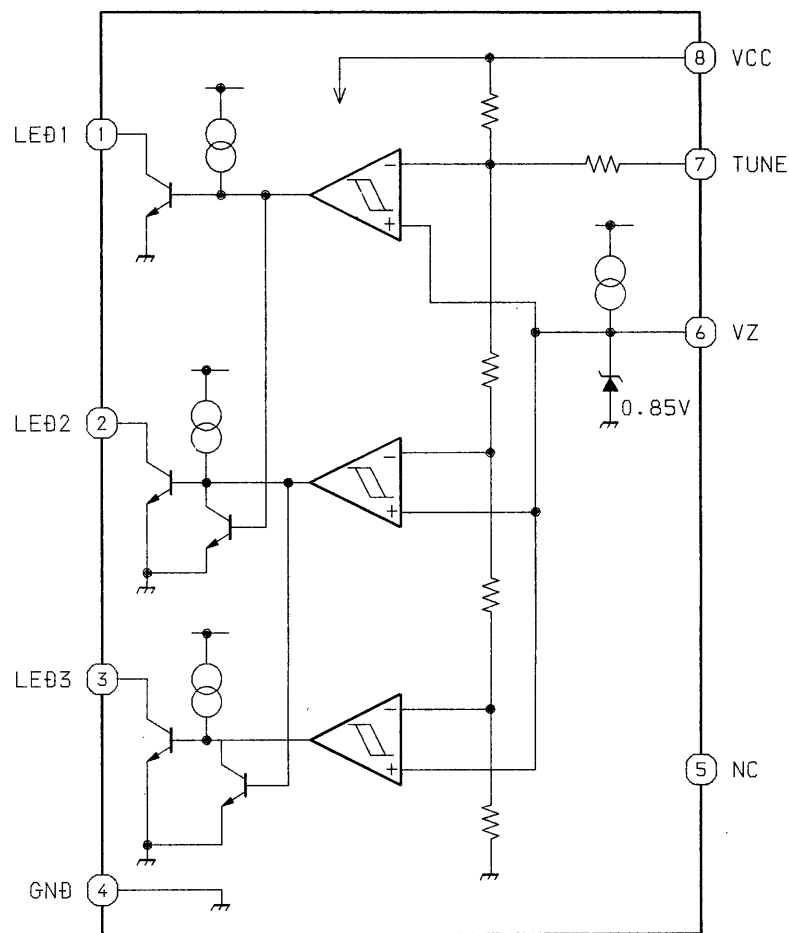
IC, PST9015



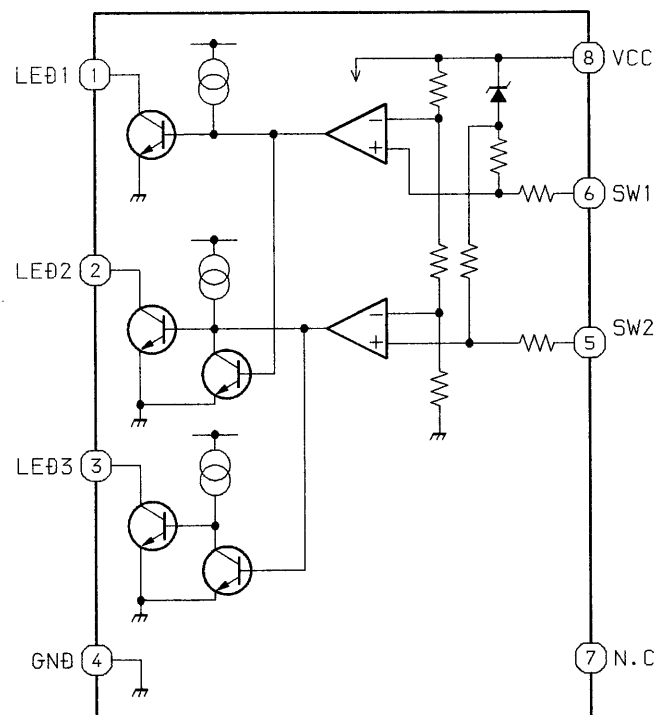
IC, TPIC326ADB

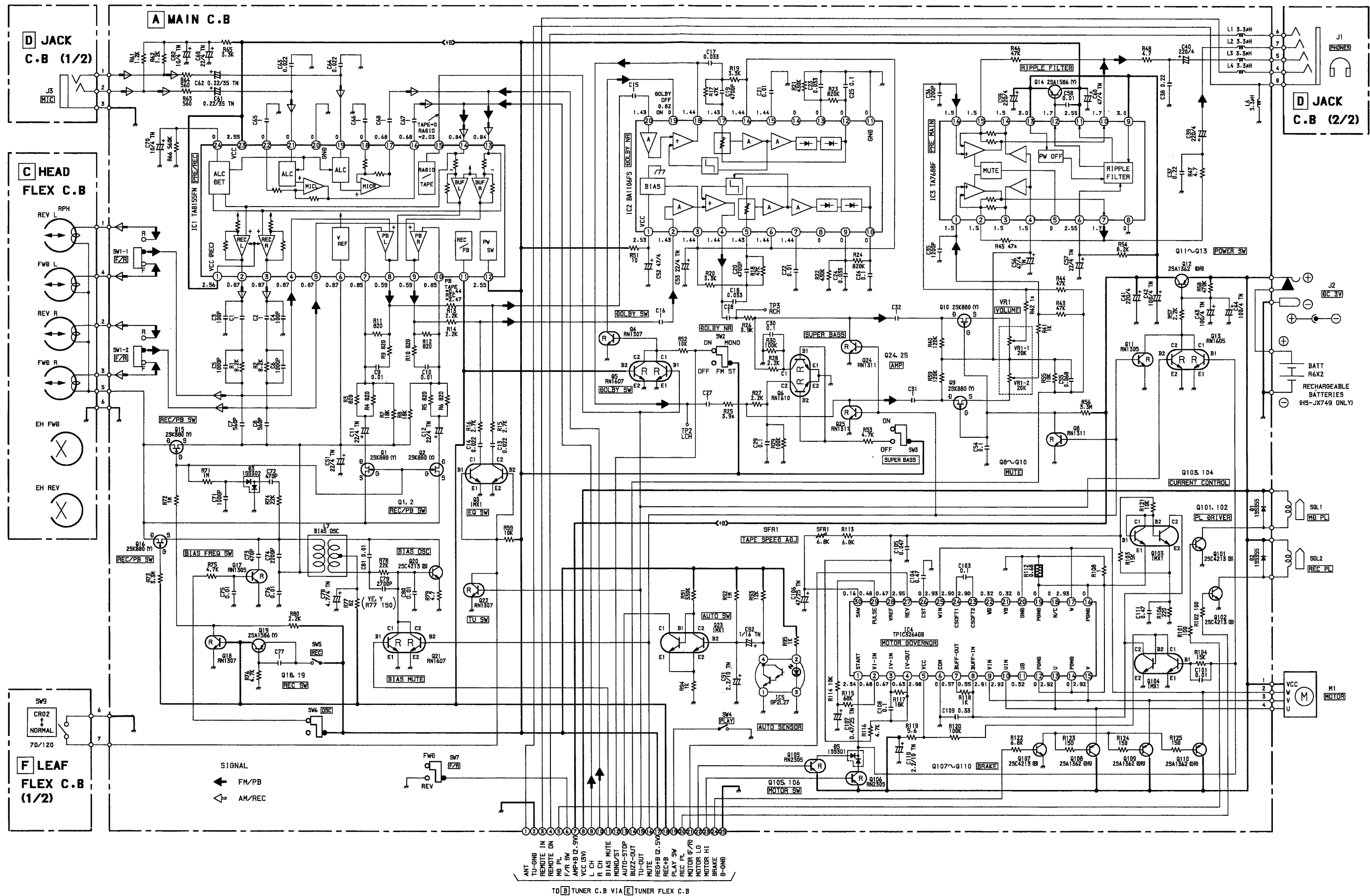


IC, MM1209XF (AH ONLY)

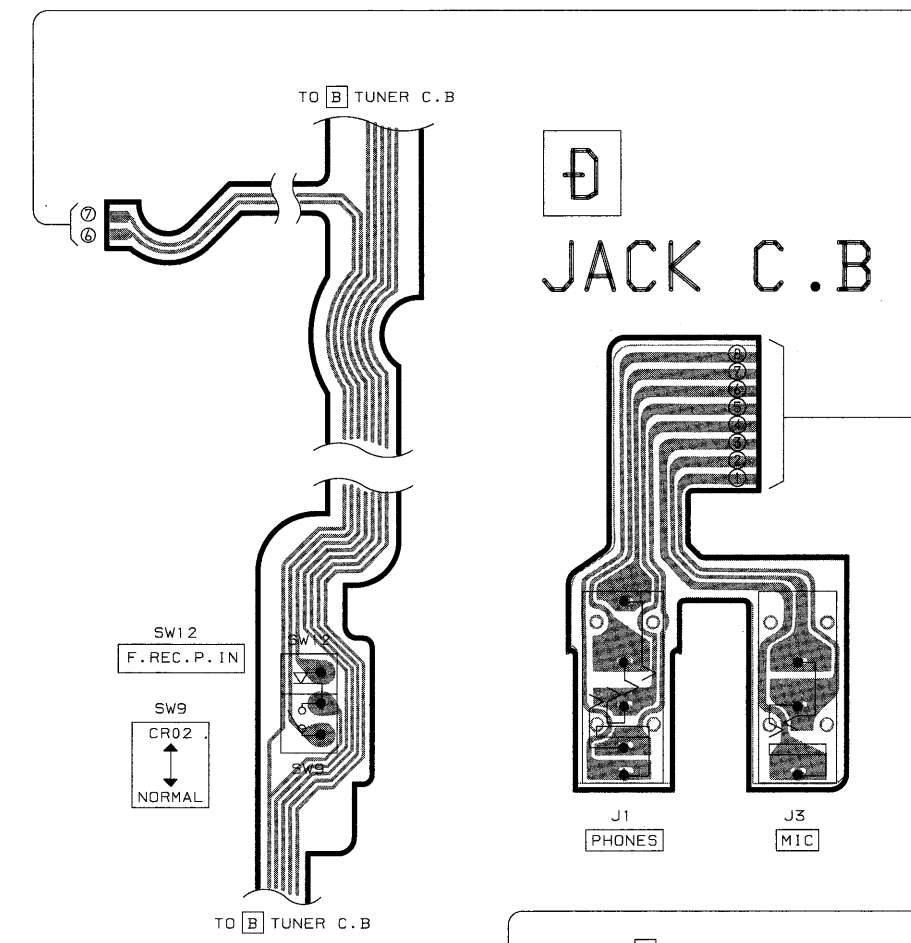


IC, MM1206XF (YE, Y ONLY)

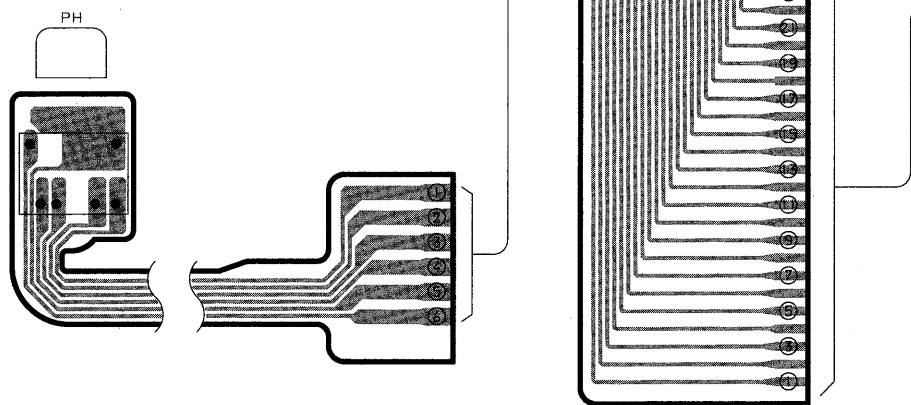




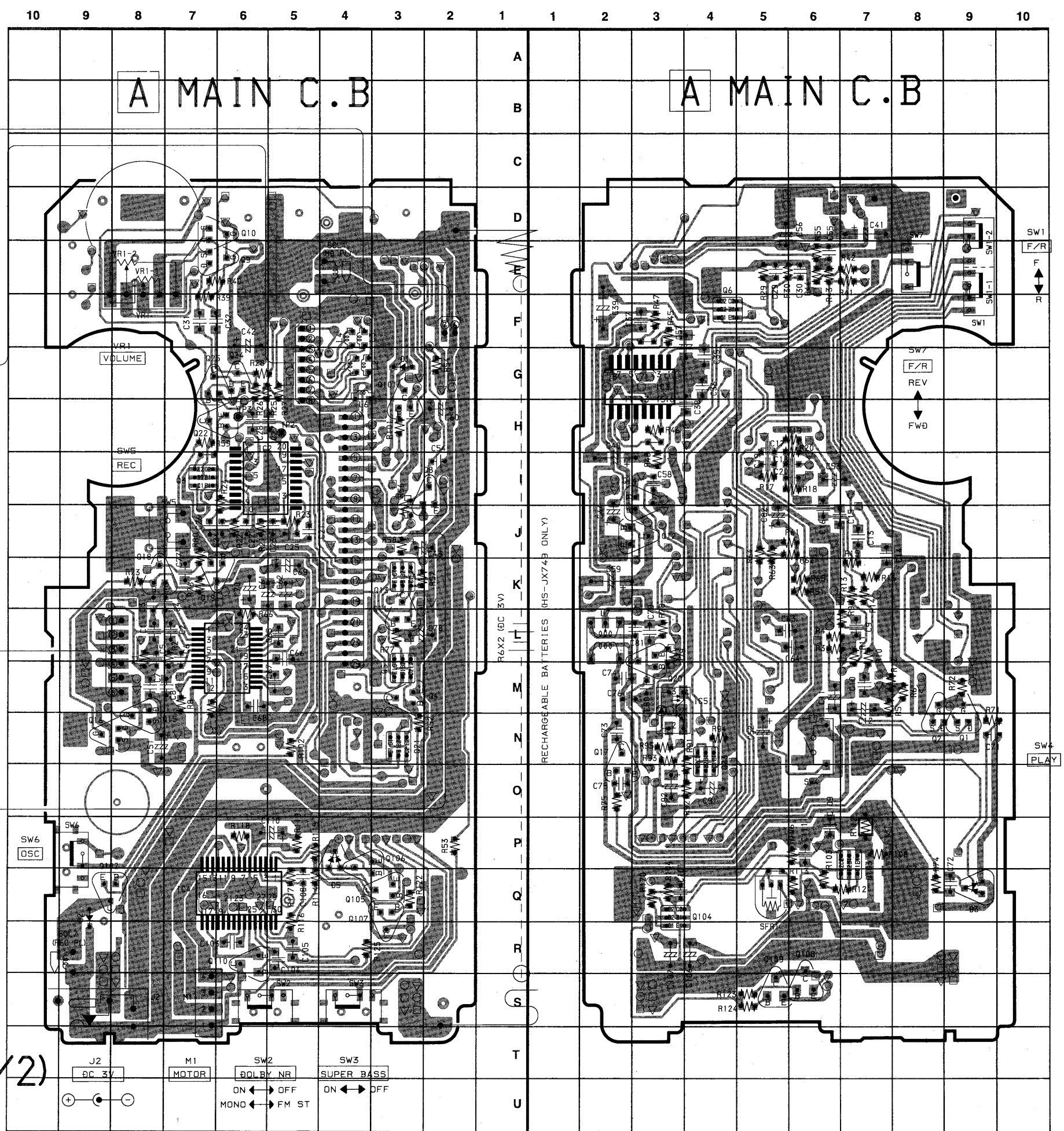
F LEAF FLEX C.B (1/2)

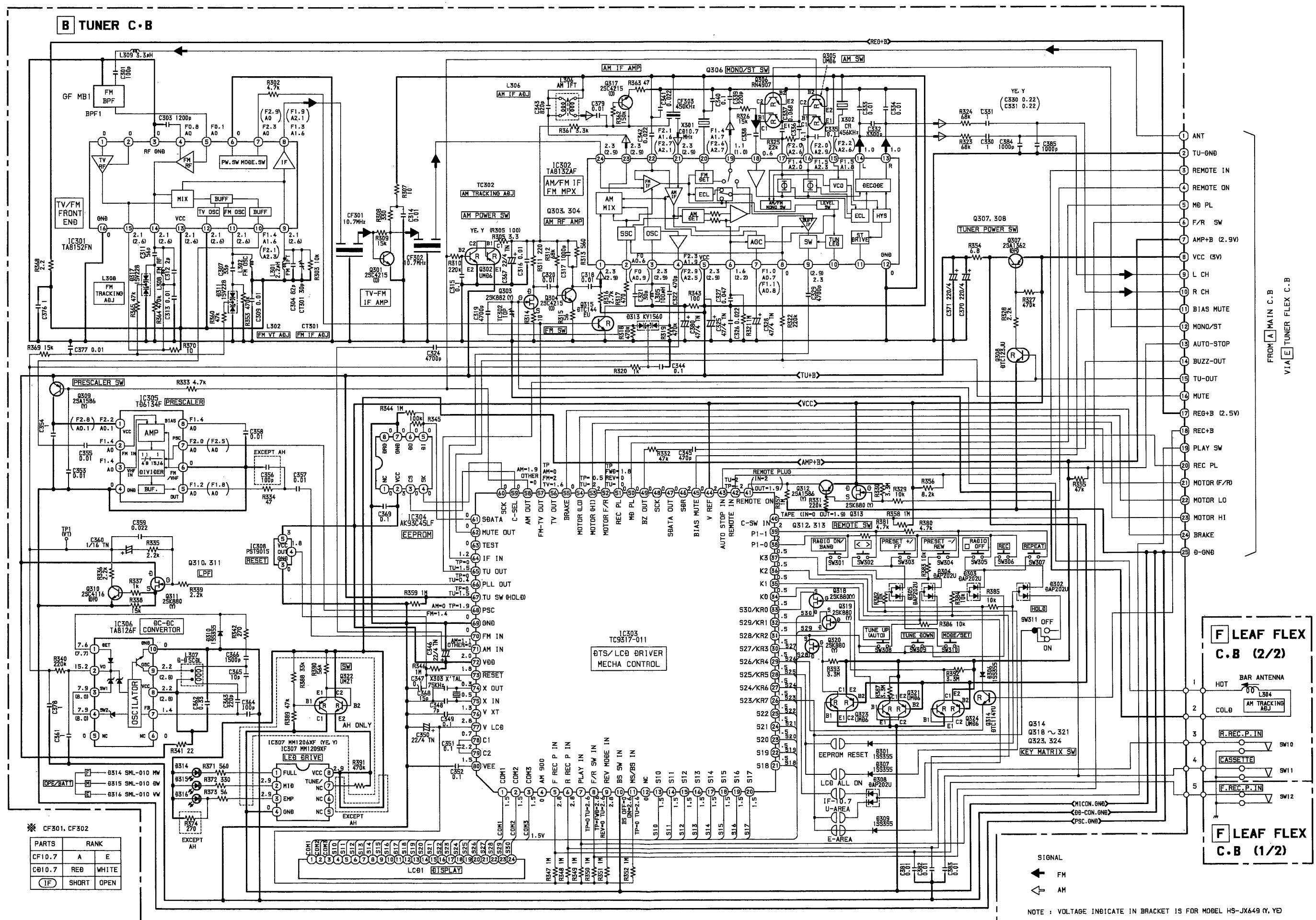


C HEAD FLEX C.B

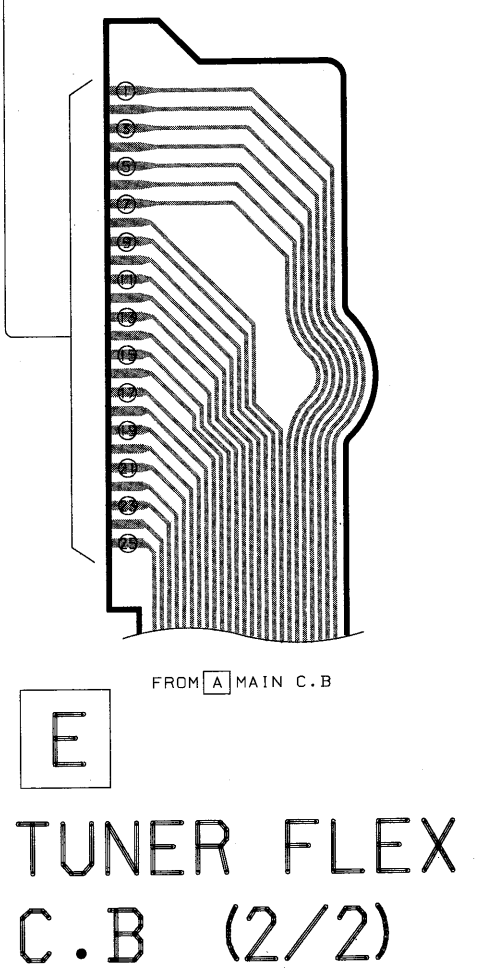
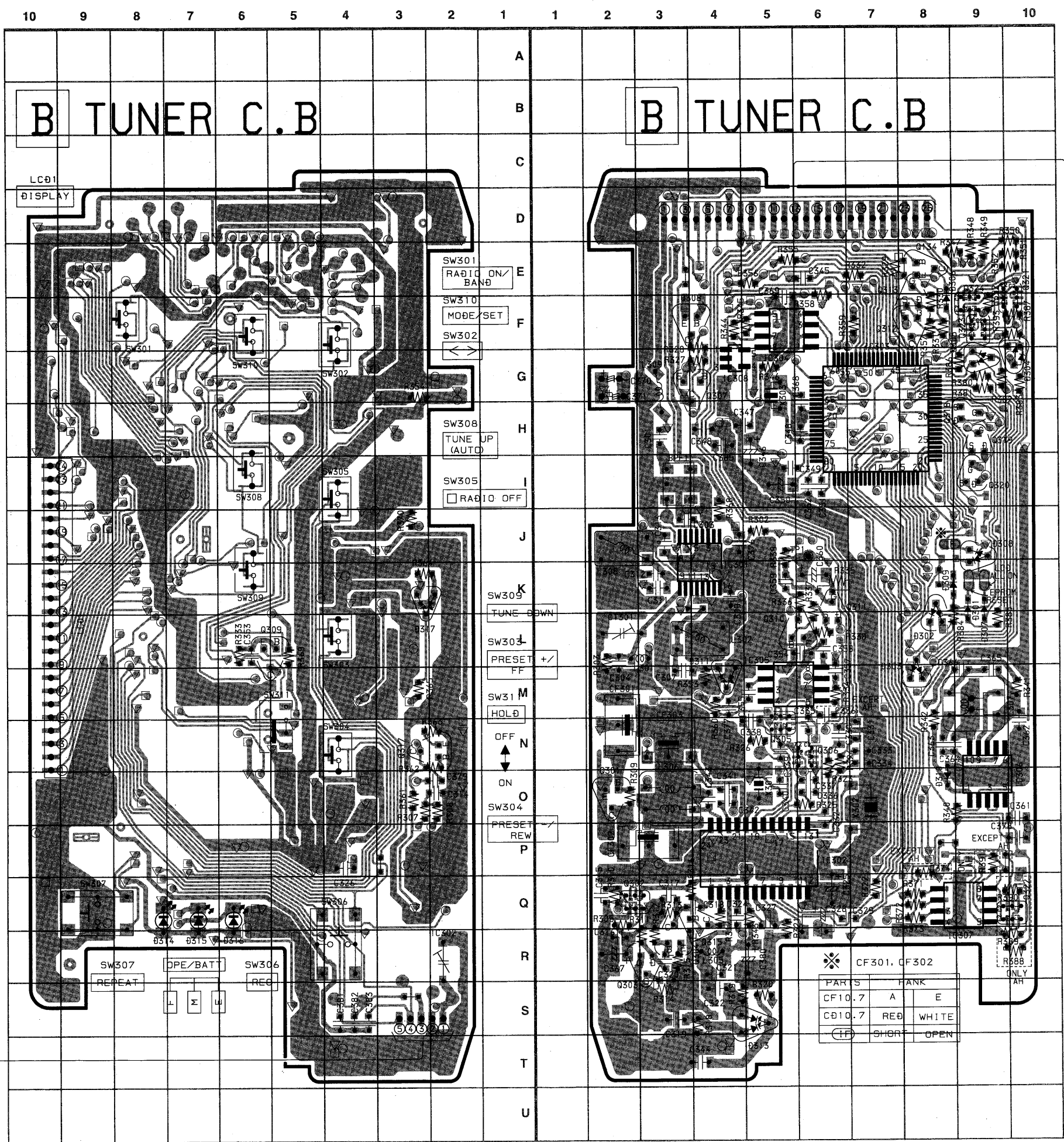
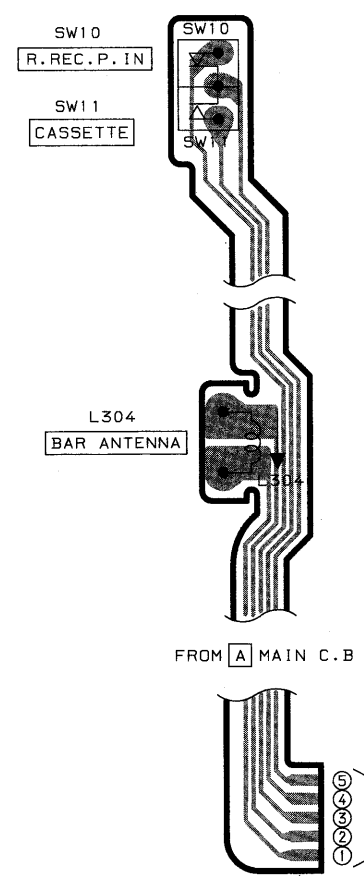


E TUNER FLEX C.B (1/2)



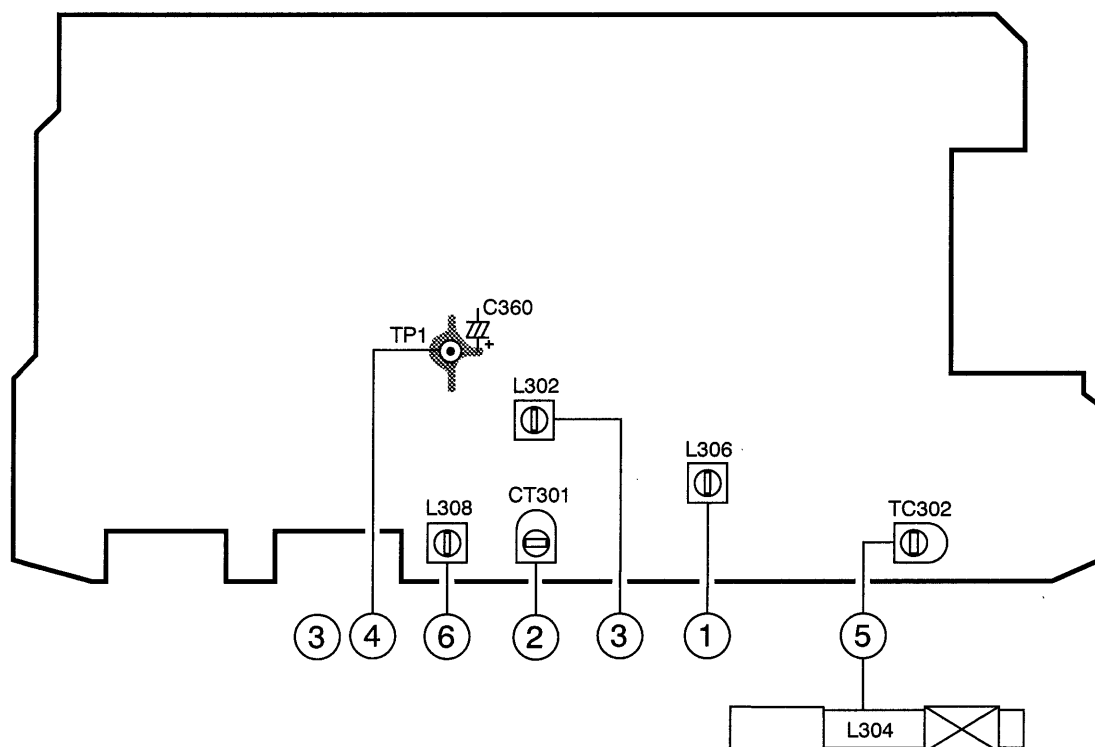


F
LEAF FLEX
C.B (2/2)



ADJUSTMENT – 1 <TUNER>

[B] TUNER C.B



<RADIO SECTION>

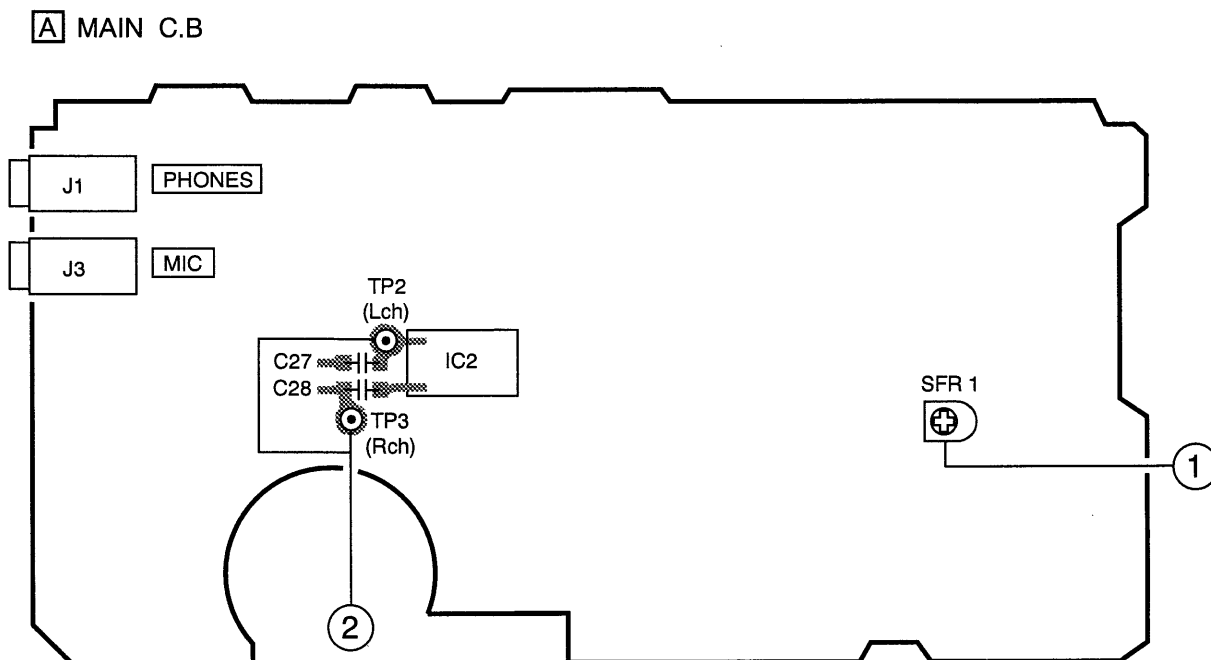
1. AM IF Adjustment
L306 450kHz
2. FM IF Adjustment
CT301 10.7MHz
3. FM VT Adjustment
Settings : • Test point : TP1
 • Adjustment location : L302
Method : Set to FM 87.5MHz and adjust L302 so that the test point becomes $1.0V \pm 0.05V$. Set to FM 108MHz and TP1, check the voltage for less than 6.0V ~ 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%) (S/N 10dB)	FM Less than 19dB (87.5 / 98.5 / 108.0MHz)
	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)

ADJUSTMENT – 2 <DECK>



<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 ± 55 Hz 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

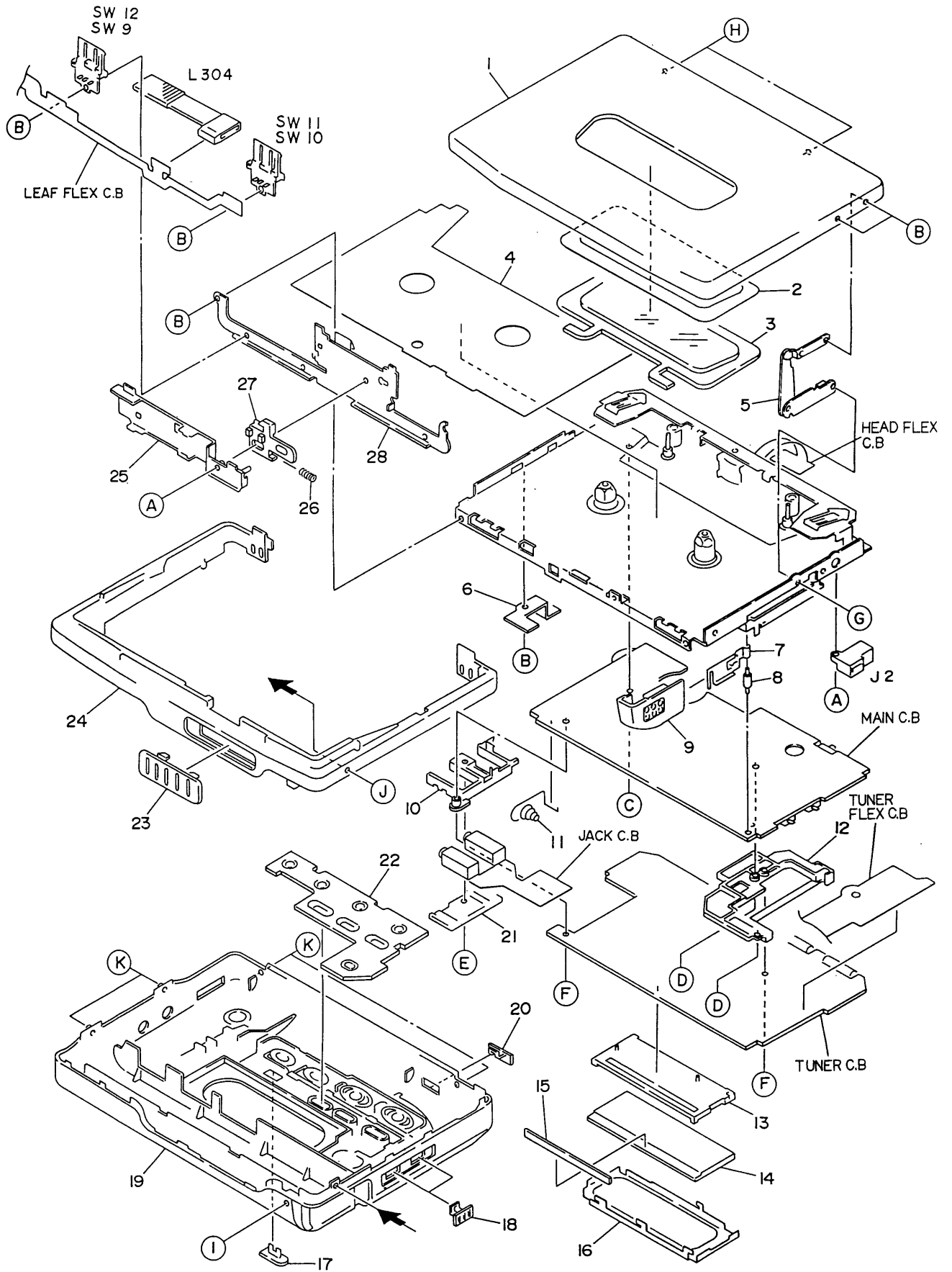
Method : Connect an electrolytic capacitor (10 μ F / 16V) to measured equipment and TP2 (3), check the voltage for 100mV $\pm$ 1.0dB.

PRACTICAL SERVICE FIGURE

<TAPE PLAYER SECTION>

Tape speed :	3015Hz $\pm$ 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 $\pm$ 4dB ~ 8kHz $\pm$ 3.5dB (NORMAL) 63Hz $\pm$ 4dB ~ 10kHz $\pm$ 3.5dB (CrO2, METAL)

MECHANICAL EXPLODED VIEW 1/1

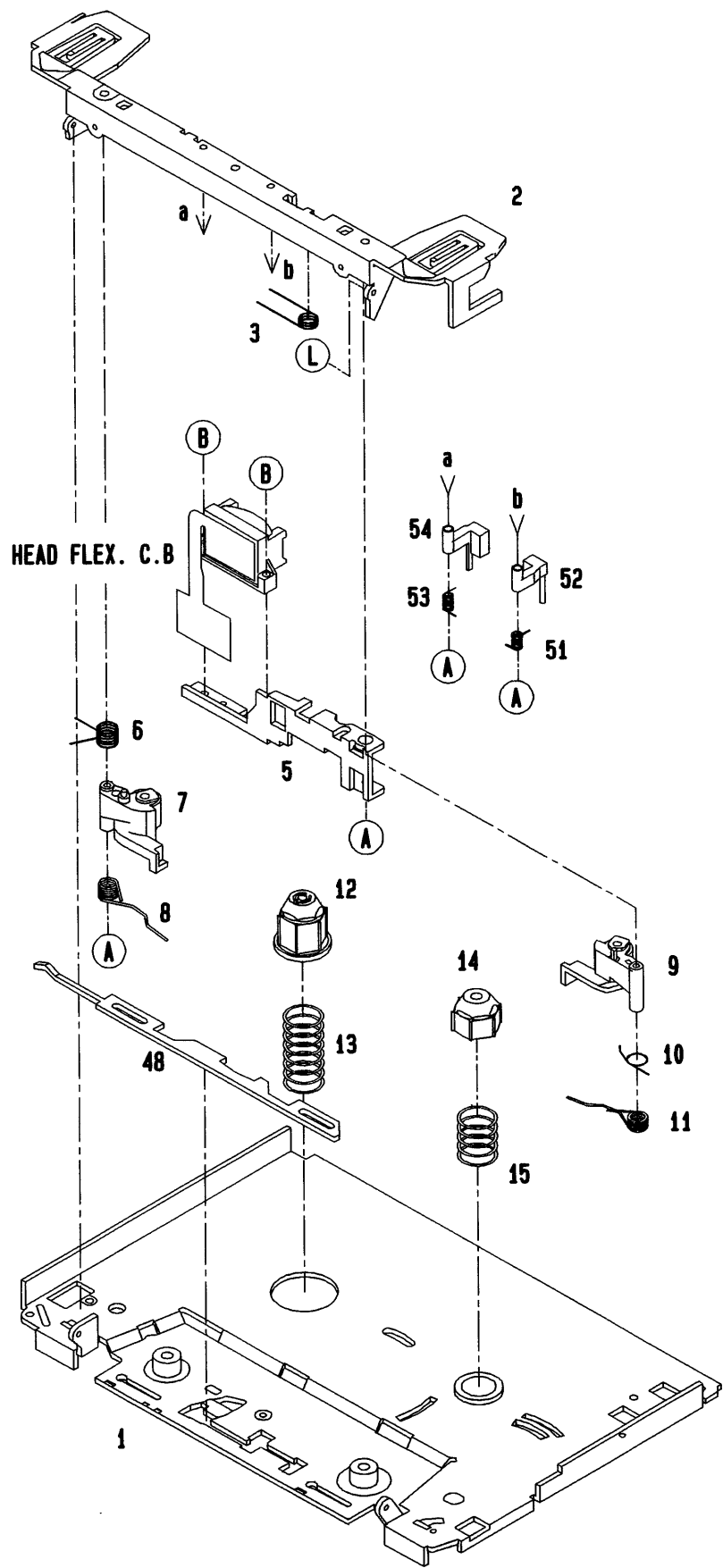


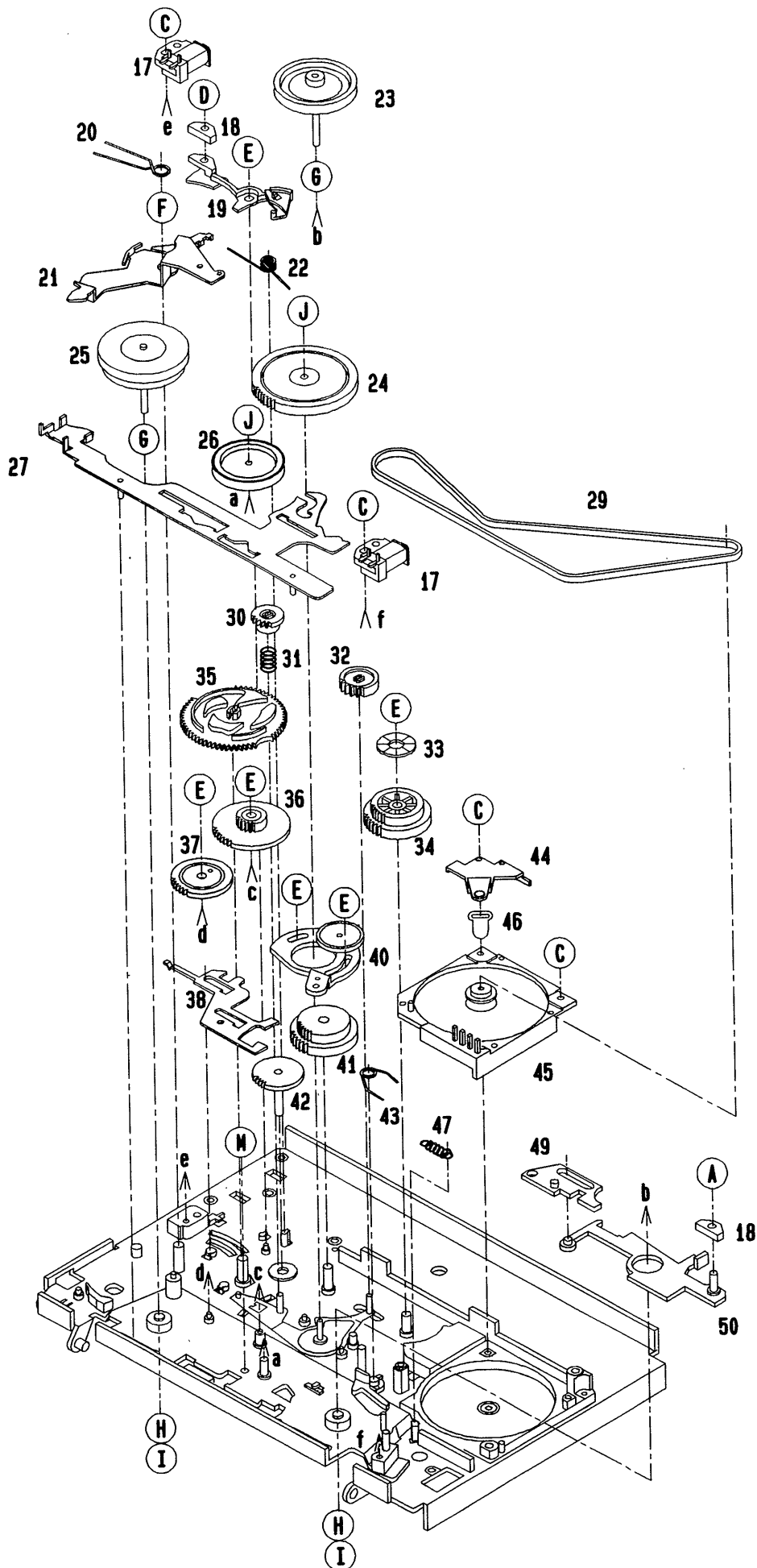
MECHANICAL PARTS LIST 1/1

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

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

TAPE MECHANISM EXPLODED VIEW 1/1



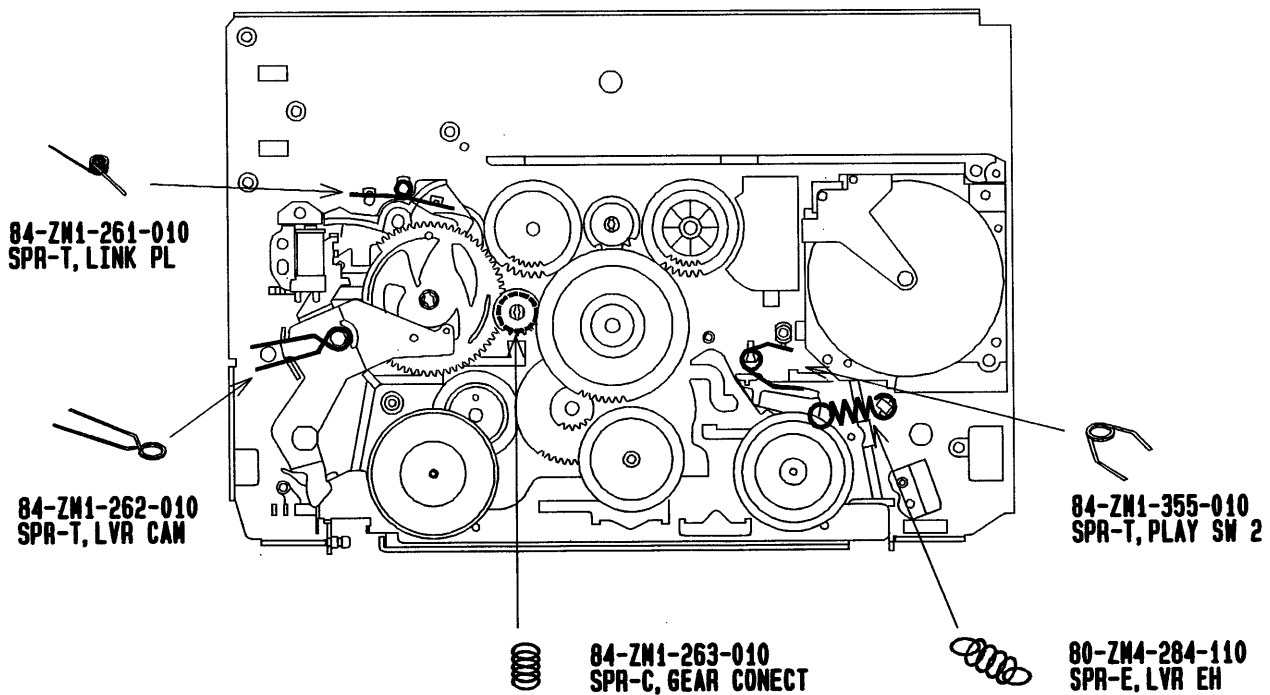
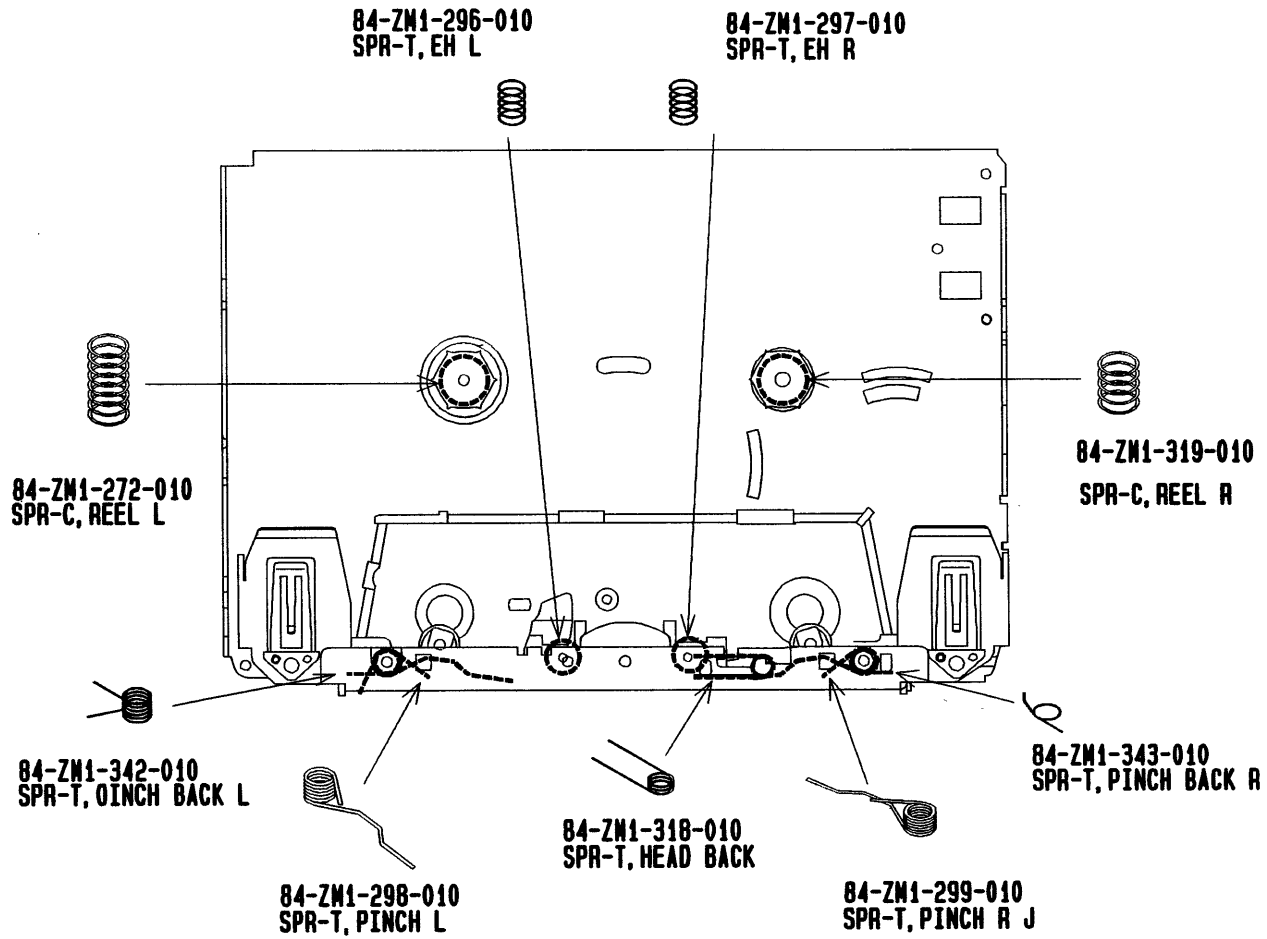


TAPE MECHANISM PARTS LIST 1/1

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

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

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, CERA-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	
番号	連絡内容
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