

SERVICE MANUAL

CASSETTE RECORDER

BASIC TAPE MECHANISM : 6ZM-2 M1NF

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" TP-VS805(Y), (S/M Code No. 09-006-435-1T1).

SPECIFICATIONS

Track system:	2 tracks 1 channel, monaural		
Frequency response:	250-8000 Hz (4.8 cm/sec) EIAJ		
Microphone:	Electret condenser microphone (monaural)		
Maximum output:	280mW (EIAJ/DC)		
Input jack:	EXT MIC jack (monaural mini-jack) (1)		
Output jack:	EARPHONE jack (monaural mini-jack) (1)		
Other jack:	DC 3 V jack		
Speaker:	Diameter 36 mm, 8 ohms		
Recording system:	DC bias		
Erasing system:	DC erasure		
Recording speed:	Approx. 4.8 cm/sec. with the REC MODE switch set to NORMAL Approx. 2.4 cm/sec. with the REC MODE switch set to EXTENDED		
Power source:	DC 3V using two R6 (size AA) dry cell batteries AC house current using the AC adaptor (Aiwa AC-D302)		
Battery life:	Battery	EIAJ Recording	EIAJ 10mW
	Manganese batteries (R6P)	Approx. 8.5 hours	Approx. 6 hours
	Alkaline batteries (LR6)	Approx. 20 hours	Approx. 15 hours
Maximum outside dimensions (W x H x D):	109.3 (W) x 30.1 (H) x 79.8 (D) mm (excluding projecting parts and controls) ($4\frac{3}{8} \times 1\frac{3}{16} \times 3\frac{1}{4}$ in)		
Weight:	Approx. 190.8 g (6.7 oz) (excluding batteries)		

• Design and specifications are subject to change without notice.

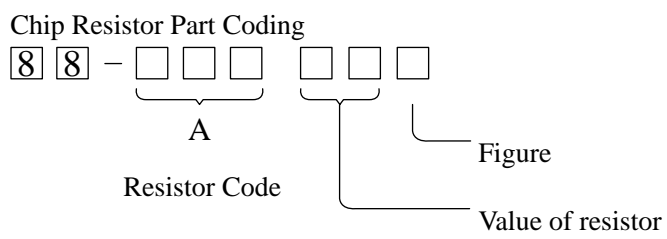
ACCESSORIES / PACKAGE LIST

REF.NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-HT2-851-010	1B	COVER, SLIDE S<D>
2	8A-HT2-908-010	OE	IB, D<D>
2	8A-HT2-905-010		IB, Y (EGF) S<Y>
2	8A-HT2-907-010		IB, Y (PHNCZ) S<Y>
2	8A-HT2-906-010		IB, Y (SID) S<Y>
3	87-PD3-050-010	1B	STRAP, HAND
4	8A-HT2-026-010	1H	RC UNIT, MIC/REMOTE<D>
4	8A-HT2-027-010		RC UNIT, MIC/REMOTE Y<Y>

ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC							
	87-A21-657-080	1E	C-IC, AN7086S	C208	87-010-831-080	0E	C-CAP, U, 0.1-16F
	87-A21-658-010	1H	C-IC, TC9318FB-061	C209	87-A10-262-080	0E	C-CAP, U 1-10 ZF
	87-A21-566-040	1A	C-IC, S-80820ANNP	C210	87-010-831-080	0E	C-CAP, U, 0.1-16F
	87-A20-532-140	1D	C-IC, LB1977M-TLM	C213	87-A10-262-080	0E	C-CAP, U 1-10 ZF
TRANSISTOR							
	87-026-429-040	0E	C-TR, RN2311	C303	87-A10-504-080	0E	C-CAP, U 0.047-16 K B
	87-026-414-080	0E	C-TR RN1307	C304	87-A10-504-080	0E	C-CAP, U 0.047-16 K B
	89-508-804-080	1A	CHIP FET 2SK880Y	C305	87-A10-504-080	0E	C-CAP, U 0.047-16 K B
	87-026-418-080	0E	TR, RN1311 (0.1W)	C306	87-A10-828-080	0E	C-CAP, U 0.33-6.3 K B
	87-026-411-080	0E	C-TR RN1304	C308	87-A10-263-080		C-CAP, U 0.1-16ZF<Y>
	89-327-125-080	0E	CHIP TRANSISTOR 2SC2712GR	C308	87-010-831-080	0E	C-CAP, U, 0.1-16F<D>
	89-341-165-080	0E	CHIP TRANSISTOR 2SC4116GR	C309	87-A10-827-080	0E	C-CAP, U 0.47-6.3 K B
	89-113-625-080	0E	TR, 2SA1362GR	C310	87-A10-504-080	0E	C-CAP, U 0.047-16 K B
	89-341-164-080	0E	CHIP-TRANSISTOR, 2SC4116 Y	C401	87-010-831-080	0E	C-CAP, U, 0.1-16F
	89-333-266-080	0E	C-TR, 2SC3326B	C402	87-010-831-080	0E	C-CAP, U, 0.1-16F
	87-A30-184-070	0E	C-FET, 2SJ106Y	C403	87-016-396-080	0E	C-CAP, U 0.22-16F
	87-A30-179-010	1B	FET, 2SJ107GR	C501	87-010-503-040	0E	CAP, E 220-4 GAS
	89-115-864-080	0E	CHIP TRANSISTOR 2SA1586Y	C503	87-010-502-040	0E	CAP ELECT GAS 100/4
DIODE							
	87-001-165-080	0E	DIODE, 1SS300 (100MA)	CN201	87-A61-155-080	1B	C-CONN, 30P H XF2H-3015-1
	87-017-799-080	0E	C-DIODE, 1SS352	FC201	8A-HT2-612-010	1B	PWB, FLEX MAIN
	87-001-167-080	0E	DIODE, 1SS302 (100MA)	J101	84-TM1-640-010	1B	JACK, 3.5 HSJ1494-02
	87-A40-822-040	0E	C-DIODE, CRS01	J102	87-A61-032-010	1A	JACK, 3.5 BLK ST W/SW HSJ1494
MAIN C.B							
C101	87-016-317-080	0E	C-CAP, TN 2.2-6.3	J501	87-A60-849-010	0E	JACK, DC DIA 2.75 BLK
C102	87-016-317-080	0E	C-CAP, TN 2.2-6.3	PS201	87-A90-440-010	1A	SNSR, PHOTO GP2S24N2-B
C104	87-012-283-080	0E	C-CAP, U 5600P-50 B	S131	87-036-379-180	0E	C-SW, SL1-1-2 SS350
C105	87-010-787-080	0E	CAP, U 0.022-25	S151	87-036-379-180	0E	C-SW, SL1-1-2 SS350
C106	87-016-317-080	0E	C-CAP, TN 2.2-6.3	S201	87-A91-457-080	1C	C-SW, SL 1-1-3 SS-350-A13B-C-T
C107	87-A10-952-080	0E	C-CAP, TN 22-4 M A MCM	S202	87-A91-421-010	1A	SW, LEAF 6ZM-2 (H)
C108	87-010-746-080	1A	CAP, TANTAL 10-4	S203	87-A90-361-010	1A	SW, PUSH SPPB51-H11.3
C109	87-010-673-080	0E	CAP, ELECT 100-2	S204	87-A91-365-080	1A	C-SW, PUSH 1-1-1 SPVG21
C110	87-016-431-080	0E	C-CAP, E 220-4 5.5N	S205	87-HJ3-608-010	1B	SW, LEAF REC ASSY
C111	87-010-788-080	0E	C-CAP, U 0.033-2.5F	S206	87-HJ3-608-010	1B	SW, LEAF REC ASSY
C112	87-010-746-080	1A	CAP, TANTAL 10-4	SFR301	87-A91-653-040	0E	C-SFR, K 33K H RH03AEC
C113	87-016-396-080	0E	C-CAP, U 0.22-16F	SFR302	87-A91-797-040	0E	C-SFR, 10K B RH03AEC14X
C114	87-016-396-080	0E	C-CAP, U 0.22-16F	TH301	87-A90-477-080	0E	C-THMS, 157-502-53002-TP
C115	87-012-286-080	0E	CAP, U 0.01-25	TH302	87-A90-477-080	0E	C-THMS, 157-502-53002-TP
C116	87-016-562-080	0E	C-CAP, TN 4.7-10 SV A	VR101	87-024-655-010	1B	VR, 20KC DIA14
C117	87-016-317-080	0E	C-CAP, TN 2.2-6.3	VR301	87-A91-822-010	1A	VR, RTRY 10KB H XV081PH1NCC-305
C118	87-016-350-040	0E	CAP ELECT 470-4 M 5L MA	X201	87-A70-187-010	1B	VIB, XTAL 75KHZ CFV206
C119	87-A10-703-080	1A	C-CAP, TN 47-2.5 M A	SWITCH C.B			
C120	87-010-502-040	0E	CAP ELECT GAS 100/4	C701	87-016-396-080	0E	C-CAP, U 0.22-16F
C121	87-A10-703-080	1A	C-CAP, TN 47-2.5 M A	CN701	87-A61-155-080	1B	C-CONN, 30P H XF2H-3015-1
C122	87-010-831-080	0E	C-CAP, U, 0.1-16F	D701	87-A91-355-040	0E	C-LED, BR1112H-TR-RED
C123	87-012-335-080	0E	C-CAP, U 270P-50 SL	LCD701	8A-HT2-604-010	1B	LCD, AHT-2
C131	87-010-788-080	0E	C-CAP, U 0.033-25 Z F	MIC701	82-TP3-609-010	1A	ECM, KUB2823
C132	87-A21-319-010	0E	C-CAP, U 0.1-25 K B	S701	87-A90-665-280	0E	C-SW, TACT LS7A2M
C133	87-010-503-040	0E	CAP, E 220-4 GAS	S702	87-A90-665-280	0E	C-SW, TACT LS7A2M
C134	87-010-505-080	0E	CA, CHIP TANTALUM 1-16	S703	87-A90-665-280	0E	C-SW, TACT LS7A2M
C135	87-010-746-080	1A	CAP, TANTAL 10-4	S704	87-A90-665-280	0E	C-SW, TACT LS7A2M
C137	87-012-335-080	0E	C-CAP, U 270P-50 SL	S705	87-A90-665-280	0E	C-SW, TACT LS7A2M
C138	87-012-274-080	0E	CHIP CAP, U 1000P-50B	S706	87-036-203-180	1A	C-SW, SL1-1-3 SSSS81
C151	87-010-502-040	0E	CAP ELECT GAS 100/4	S707	87-A90-665-280	0E	C-SW, TACT LS7A2M
C152	87-A10-263-080		C-CAP, U 0.1-16ZF<Y>	S708	87-A90-665-280	0E	C-SW, TACT LS7A2M
C152	87-010-831-080	0E	C-CAP, U, 0.1-16F<D>	S709	87-036-379-180	0E	C-SW, SL1-1-2 SS350
C201	87-010-831-080	0E	C-CAP, U, 0.1-16F	S710	87-036-379-180	0E	C-SW, SL1-1-2 SS350
C202	87-010-831-080	0E	C-CAP, U, 0.1-16F	SP701	87-A91-821-010	1D	SPKR, 36 8OHM 0.8W 36L8B8W
C203	87-012-174-080	0E	CAP CHIP CERA SS 12P CHJ	RP HEAD FLEX C.B			
C204	87-012-176-080	0E	CAP 15P	E HEAD FLEX C.B			
C205	87-A10-706-080	0E	C-CAP, U 0.33U-16 F Z				
C206	87-010-831-080	0E	C-CAP, U, 0.1-16F				
C207	87-010-831-080	0E	C-CAP, U, 0.1-16F				

TRANSISTOR ILLUSTRATION

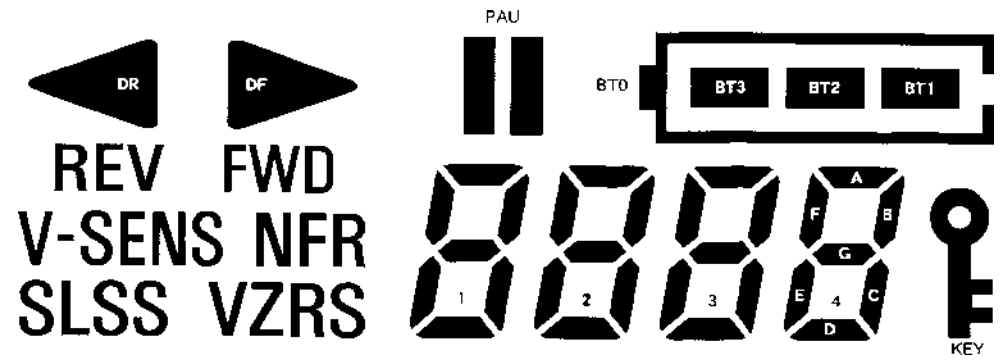


Chip resistor

Wattage	Type	Tolerance		Form			
				L	W	t	
1/16W	1608	5%	CJ	1.6	0.8	0.45	108
1/10W	2125	5%	CJ	2	1.25	0.45	118
1/8W	3216	5%	CJ	3.2	1.6		128

LCD DISPLAY

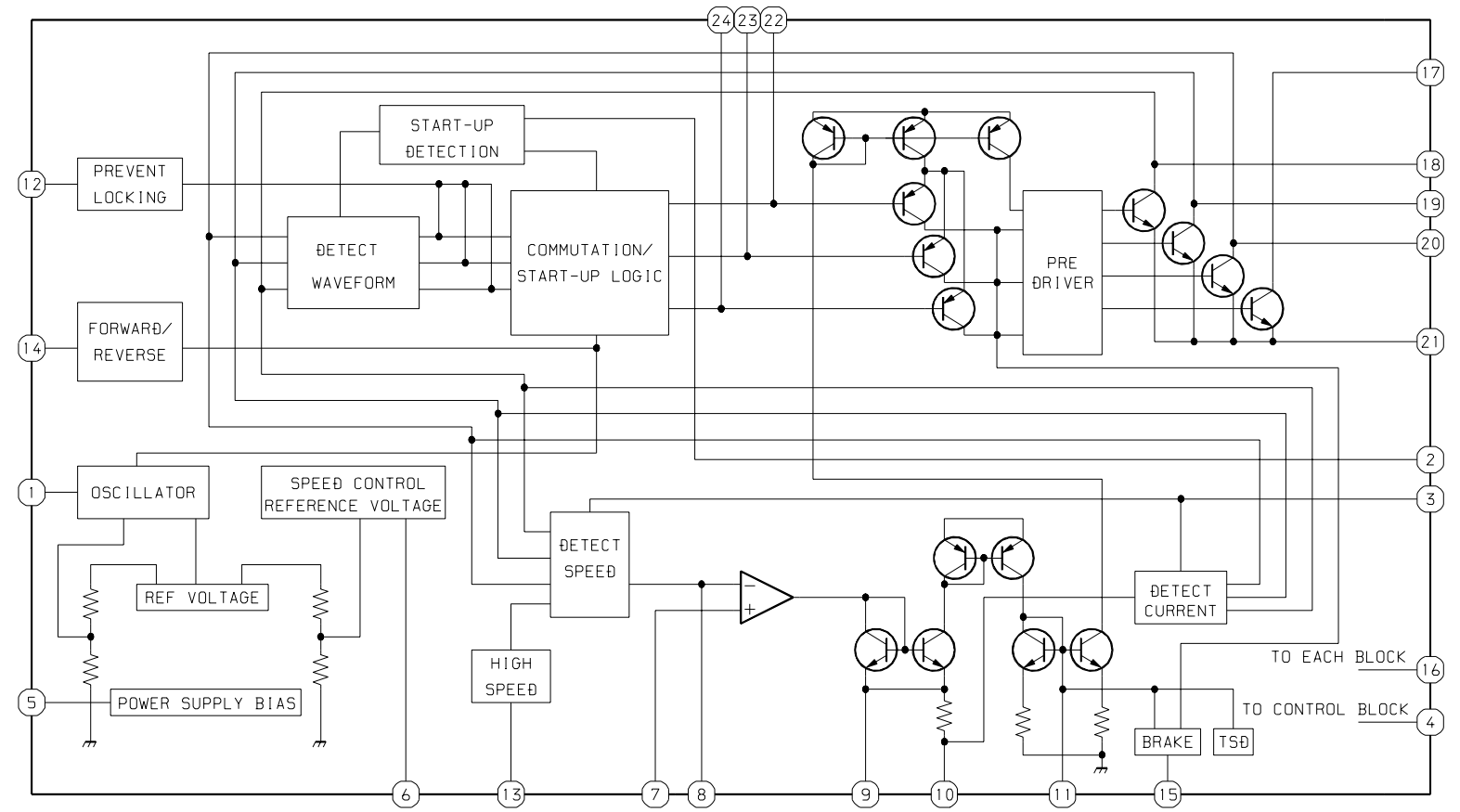
LCD,AHT-2

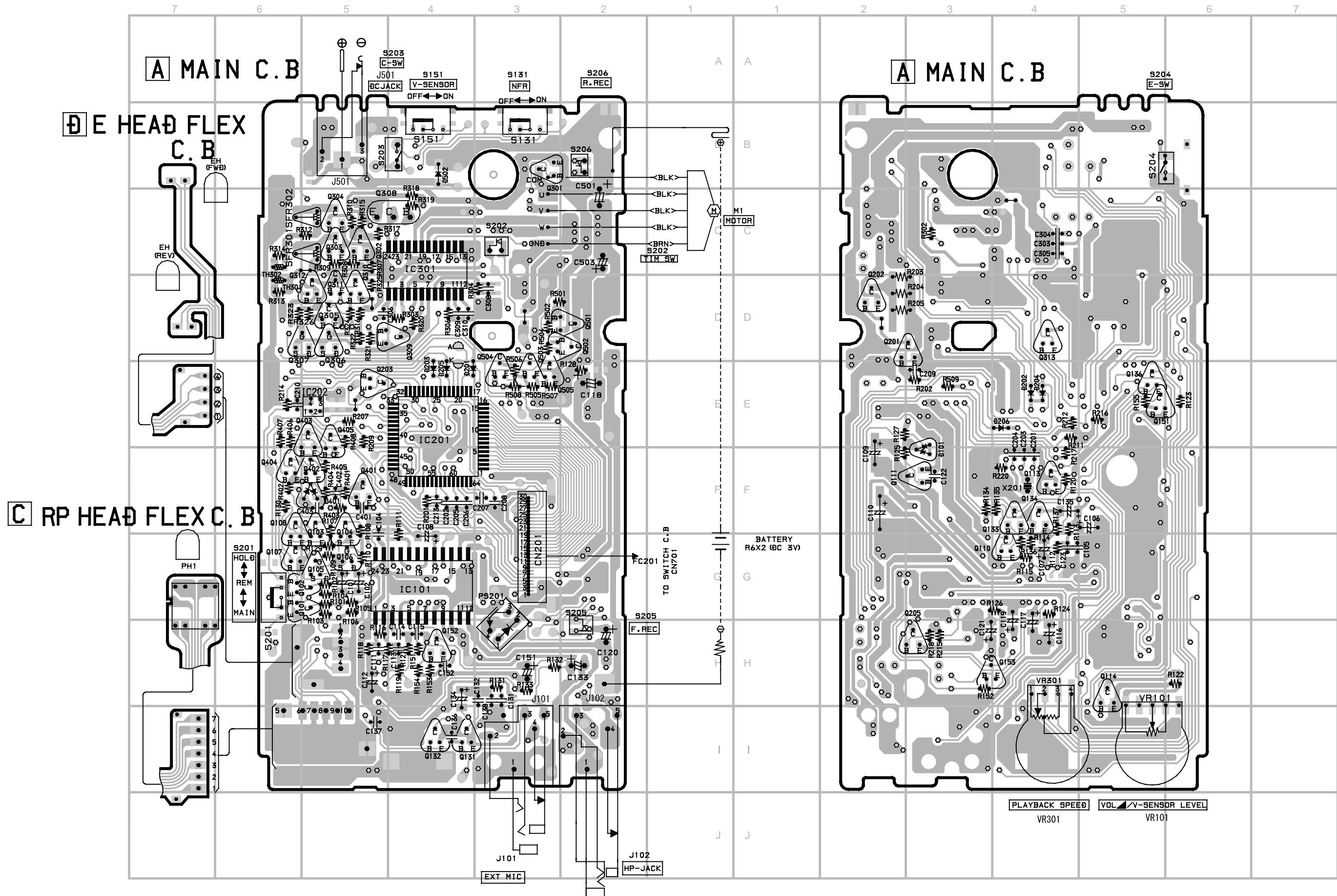


NO	COM1	COM2	COM3
1	COM1	—	—
2	—	COM2	—
3	—	—	COM3
4	4D	4C	KEY
5	4E	4G	4B
6	BT1	4F	4A
7	BT2	3C	3B
8	BT3	3E	3F
9	BT0	2C	2B
10	PAU	2E	2F
11	DF	1C	1B
12	DR	1E	1F
13	REV	VZRS	FWD
14	V-SENS	SLSS	NFR
15	1D	1G	1A
16	2D	2G	2A
17	3D	3G	3A

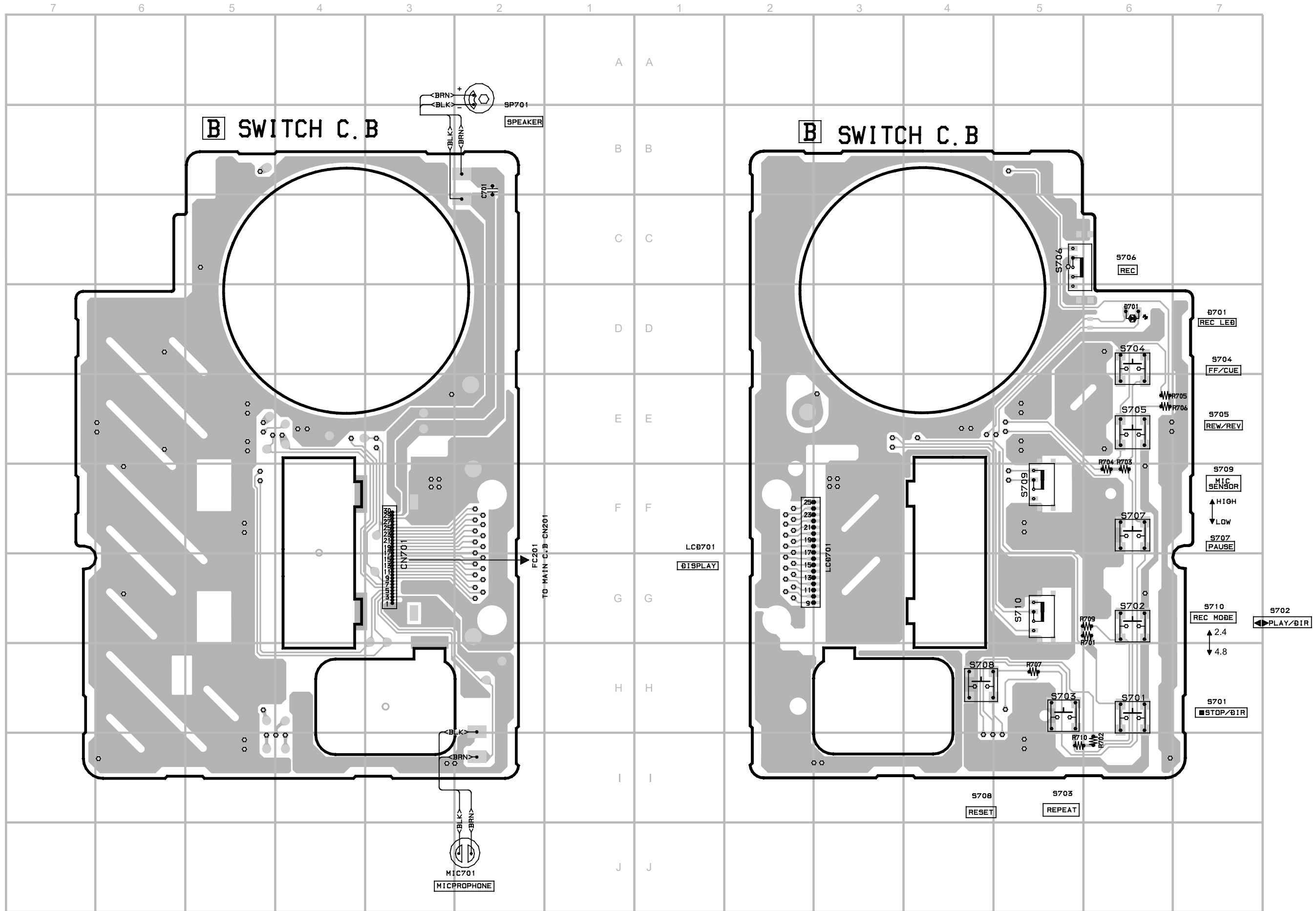
IC BLOCK DIAGRAM

IC. LB1977M-TLM

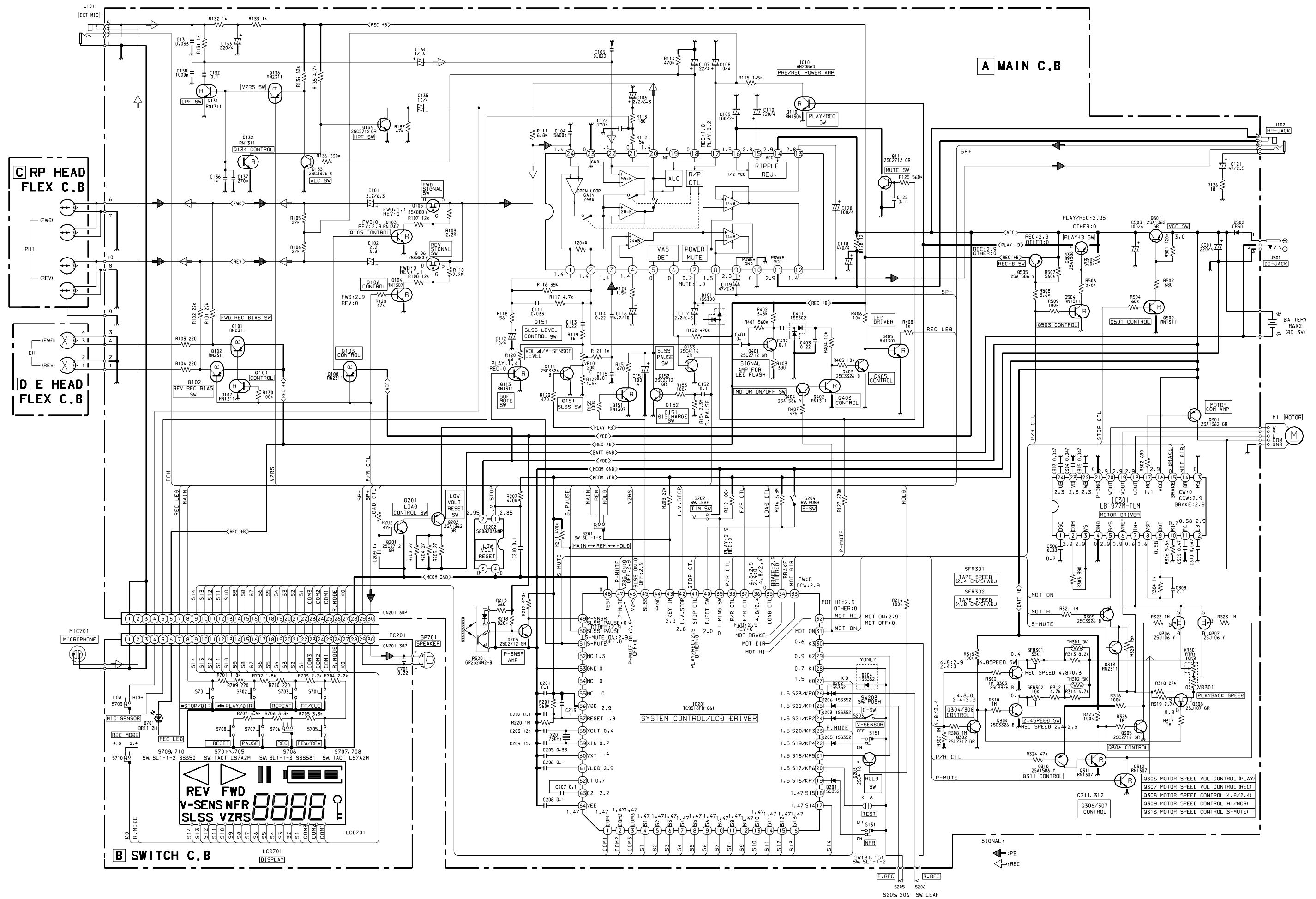




WIRING-2 (SWITCH)



SCHEMATIC DIAGRAM (MAIN / SWITCH / RP HEAD FLEX / E HEAD FLEX)



ADJUSTMENT

1. Tape Speed (4.8 cm/s) Adjustment 1

Settings : • Test tape : TTA-100 (TAPE CENTER)

- Test point : PHONES JACK (J102)
- Adjustment location : SFR301
- PAUSE : OFF
- REC MODE SW : NORM (4.8 cm/s)
- VOLUME : Maximum
- TAPE SPEED : Normal (Speed volume center)

Method : Play back the test tape and adjust SFR301 for 3000 Hz \pm 10 Hz (FWD). Then confirm that the speed at the reverse side is FWD speed \pm 45 Hz (REV). Then the confirm wow is less than 0.55 %.

2. Tape Speed (2.4 cm/s) Adjustment 2

Settings : • Test tape : TTA-160 (TAPE CENTER)

(6 kHz tape)

- Test point : PHONES JACK (J102)
- Adjustment location : SFR302
- PAUSE : OFF
- REC MODE SW : EXT (2.4 cm/s)
- VOLUME : Maximum
- TAPE SPEED : Normal (Speed volume center)

Method : Play back the test tape and adjust SFR302 for 3000Hz \pm 10 Hz. Then the confirm wow is less than 1.0%.

IC DESCRIPTION

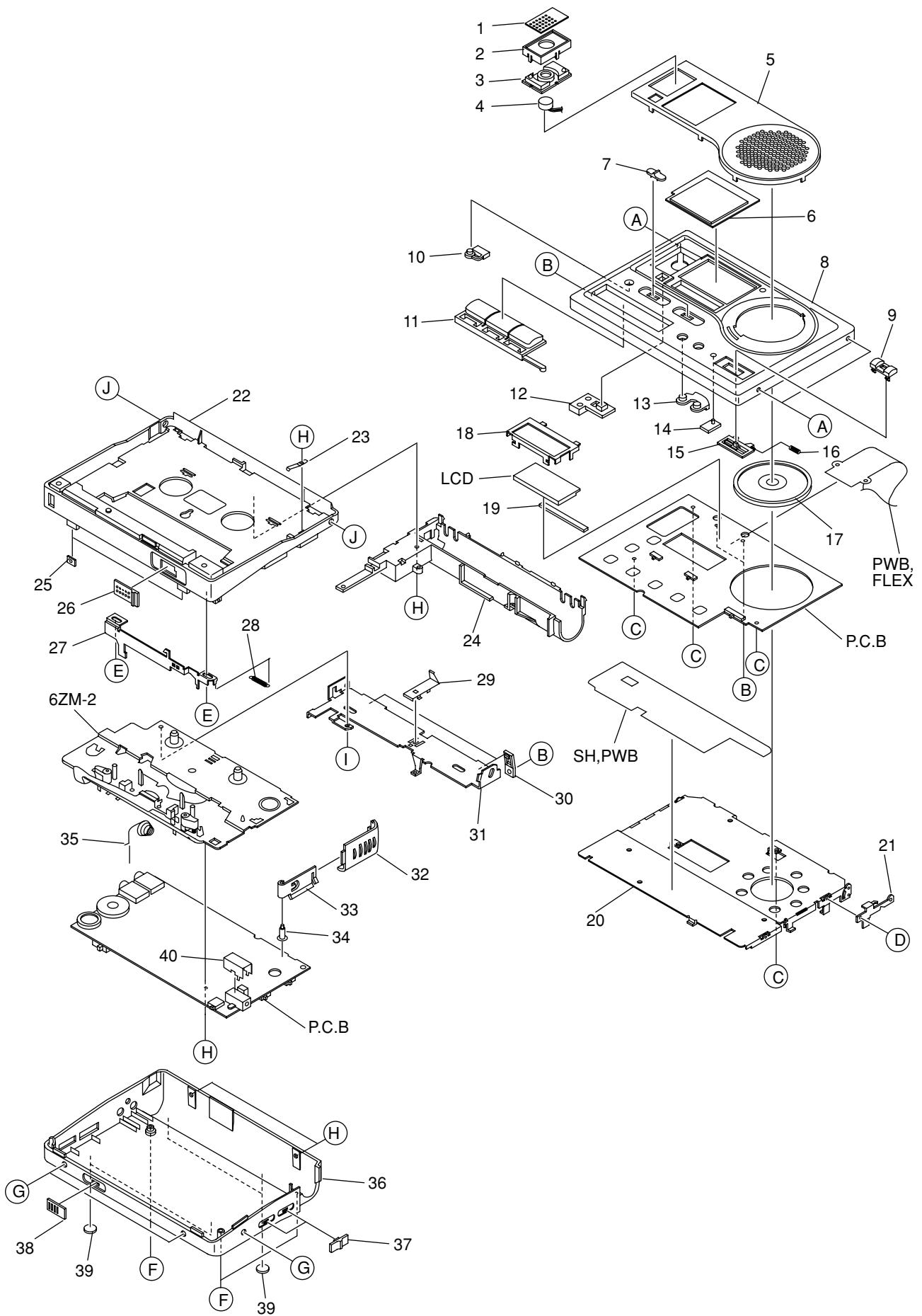
IC, TC9318FB-061

Pin No.	Pin Name	I/O	Description
1 ~ 3	COM1 ~ COM3	O	LCD driver common.
4 ~ 18	S1 ~ S15	O	LCD driver output.
19	S16/KR7	O	LCD driver output/Key return.
20 ~ 26	S17/KR6 ~ S23/KR0	O	LCD driver output (not used)/Key matrix timing output.
27 ~ 30	K0 ~ K3	I	Key matrix input.
31	MOT ON	O	Motor activation control. H : ON L : OFF.
32	MOT HI	O	Motor speed control. H : HI L : LO.
33	MOT DIR	O	Motor rotate direction control. H : CCW L : CW.
34	MOT BRAKE	O	Motor brake control. H : ON L : OFF.
35	LOAD CTL	O	Battery capacity check signal output. H : ON.
36	4.8/2.4	O	Tape speed control. H : 4.8 L : 2.4.
37	F/R CTL	O	FWD/REV control. H : FWD L : REV.
38	P/R CTL	O	Record/Playback power control. H : PLAY L : REC.
39	TIMING SW	I	Mecha status detection switch input.
40	EJECT SW	I	Mecha EJECT detection switch input.
41	STOP CTL	O	AMP power control signal output. H : ON L : OFF.
42	L.V.STOP	I	Reduction voltage detection signal input. L : Reduce voltage.
43	KEY IN	I	Main key input.
44	NC	I	Not connected.
45	SLSS	O	SLSS control signal output. H : SLSS disable L : SLSS enable.
46	VZRS	O	VZRS control signal output. H : VZRS disable L : VZRS enable.
47	P-MUTE	O	Mute signal output. H : ON L : OFF.
48	TEST	I	TEST mode control input. (connected to ground)
49	P-SNSR	I	Photo sensor signal input.
50	SLSS PAUSE	I	SLSS PAUSE signal input. H : OFF L : ON.
51	S-MUTE	O	Mute signal output. H : ON L : OFF.
52	NC	O	Not connected.
53	GND	-	Connected to ground.
54 ~ 55	NC	I	Not connected.
56	VDD	-	Power supply.
57	RESET	I	System reset signal input.
58	XOUT	-	Crystal oscillator connection terminal.
59	XIN		
60	VXT		
61	VLCD	-	Reference voltage for LCD drive.
62 ~ 63	C1 ~ C2	-	Voltage booster for LCD drive.
64	VEE	-	1.5V fixed power supply for LCD drive.

IC, LB1977M-TLM

Pin No.	Pin Name	I/O	Description
1	OSC	-	Oscillation terminal for activate.
2	COM	O	Comparator voltage for detection output waveform.
3	VS	I	Detect speed and voltage comparison for current feedback circuit. (Connected to motor com terminal)
4	GND	-	Connected to ground.
5	S/S	I	Start/Stop terminal.
6	VREF	-	Reference voltage (0.9V).
7	IN+	I	Non reverse for differential AMP.
8	VSP	O	Output for output waveform's wave height detection.
9	OUT	O	Differential AMP output.
10	RI	-	Current feedback resistor connection terminal.
11	FC	-	Frequency response adjustment terminal.
12	LB	-	Prevent motor locking when activating motor (connected to ground through a capacitor).
13	HS	-	Hi speed (1.5 times speed as normal). (connected to ground)
14	DR	I	Forward/reverse rotate direction.
15	BRAKE	I	Brake terminal. (Brake : MC OFF and U, V, W OUT ON)
16	VCC	-	Power supply.
17	MC	O	Drive terminal for external PNP transistor.
18	U OUT	O	Phase U output.
19	V OUT	O	Phase V output.
20	W OUT	O	Phase W output.
21	P-GND	-	Ground for output transistor and pre-driver.
22	WB	-	3 differential AMP phase W base terminal.
23	VB	-	3 differential AMP phase V base terminal.
24	UB	-	3 differential AMP phase U base terminal.

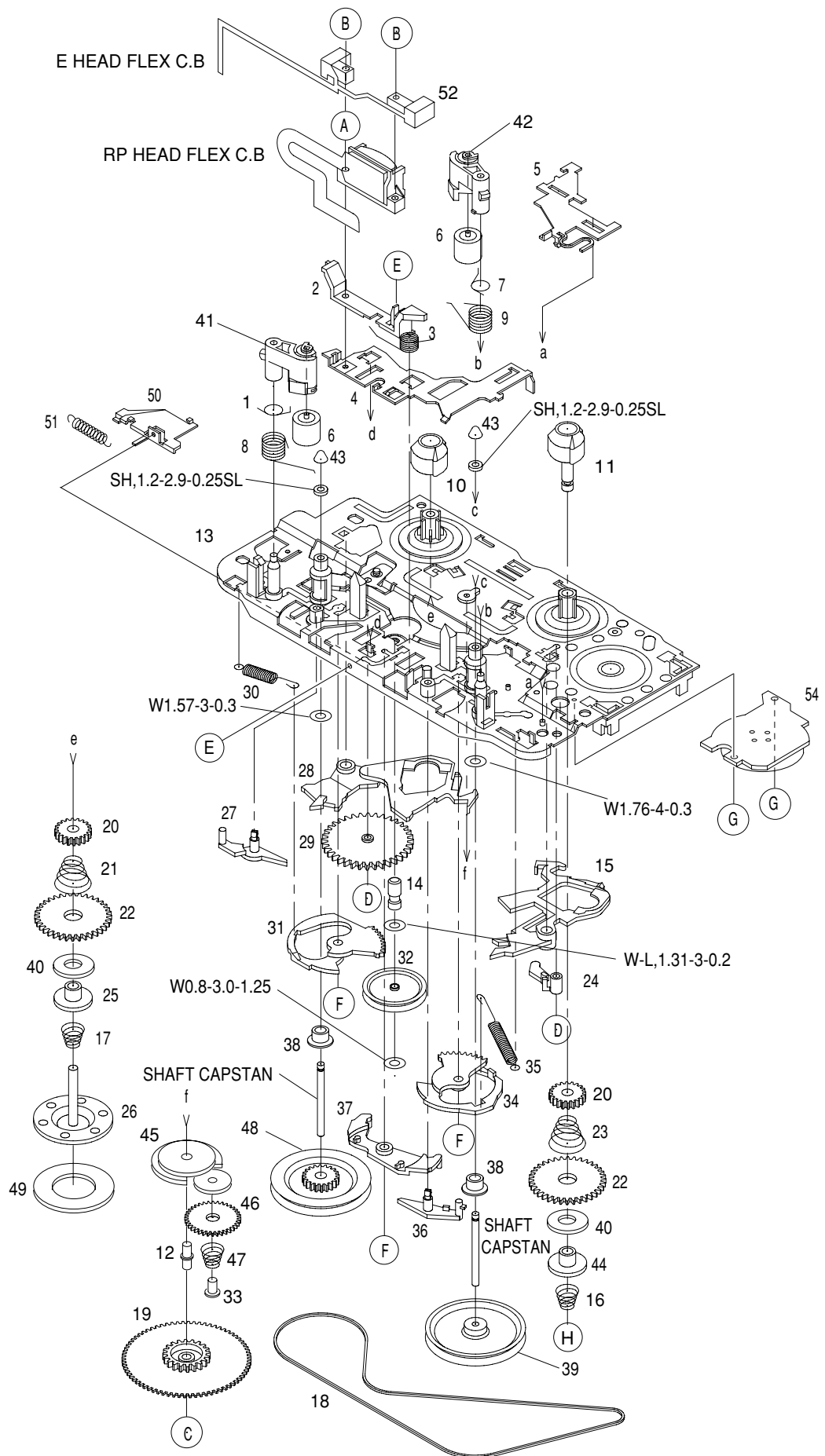
MECHANICAL EXPLODED VIEW 1 / 1



MECHANICAL PARTS LIST 1 / 1

1	8A-HT2-019-010	PANEL,MIC	31	8A-HT2-202-010	PLATE,HINGE
2	8A-HT2-024-010	HLDL,MIC	32	8A-HT2-007-010	LID,BATT
3	8A-HT2-204-010	COVER, MIC	33	8A-HT2-208-010	BAT-CONTACT, (+) HINGE
4	87-A91-877-010	MIC,ECM 0B0-081N-0B	34	8A-HT2-213-010	SHAFT,BATT
5	8A-HT2-010-010	PANEL,FRONT Y	35	8A-HT2-207-010	BAT-CONTACT, (-) SPR
6	8A-HT2-008-010	WINDOW,CASS	36	8A-HT2-006-010	CABI,REAR Y
7	8A-HT2-013-010	KNOB,SL MODE/MIC	37	8A-HT2-012-010	KNOB,SL SLSS/VZRS
8	8A-HT2-002-010	LID,CASS Y	38	8A-HT2-014-010	KNOB,SL HOLD
9	8A-HT2-015-010	KNOB,SL REC	39	8A-HT2-214-010	FOOT,RUBBER
10	8A-HT2-018-010	BTN,REPEAT	40	8A-HT2-209-010	HLDL,DCJACK
11	8A-HT2-016-010	BTN,ST/PL/PA	A	87-264-505-310	SCREW,V+1.4-2.5
12	8A-HT2-025-010	BTN,RESET	B	87-264-503-310	SCREW V+1.4-2
13	8A-HT2-017-010	BTN,FF/REW	C	87-067-732-010	TAPPING SCREW, VT1.4-3
14	8A-HT2-020-010	LENS,LED	D	87-263-500-010	SCREW V+1.4-1.4
15	8A-HT2-021-010	BTN,REC	E	87-HK5-235-010	S-SCREW,1.4-0.6-2.5
16	8A-HT2-212-010	SPR,REC	F	87-067-768-010	VT2+1.7-7
17	87-A91-821-010	SPKR,36 8OHM 0.8W 36L8B8W	G	87-264-508-310	SCREW,V+1.4-3.5
18	8A-HT2-205-010	HLDL,LCD	H	87-067-535-010	S-SCREW,VT+1.4-3.5 WHT HL
19	8A-HT2-206-010	CONN,RUBBER LCD	I	88-HK5-228-010	S-SCREW,+1.4-2 CR
20	8A-HT2-201-010	HLDL,CASS	J	87-078-137-010	S-SCREW,+1.4-1 SWCH/CR NLOCK
21	88-HJ3-203-010	SPR-P,CLICK			
22	8A-HT2-004-010	FRAME,CENTER Y			
23	87-HR6-219-010	SPR-P,POP UP			
24	8A-HT2-203-010	HLDL,PWB			
25	88-HJ3-208-010	NUT, FRONT			
26	8A-HT2-011-010	KNOB,SL OPEN			
27	8A-HT2-210-010	PLATE,LOCK			
28	8A-HT2-211-010	SPR,EJECT			
29	88-HJ3-205-010	SPR-P,CASS			
30	87-HJ3-608-010	SW,LEAF REC ASSY			

TAPE MECHANISM EXPLODED VIEW 1 / 1



TAPE MECHANISM PARTS LIST 1 / 1

1	86-ZM2-255-010	0E	SPR-T, PIN BACK L	36	86-ZM2-222-410	0E	LEVER, PIN UP R
2	86-ZM2-286-410	0E	GUIDE, TAPE REC	37	86-ZM2-218-410	0E	LEVER, HEAD UP
3	86-ZM2-220-210	0E	SPR-T, HEAD	38	86-ZM2-221-010	0E	CLR, BRG N
4	86-ZM2-285-210	0E	LEVER, HEAD REC	39	86-ZM2-292-010	1A	FLY WHL, R ASSY
5	86-ZM2-347-010	0E	LEVER, MS EJECT	40	86-ZM2-239-010	0E	FELT,
6	86-ZM2-226-110	0E	ROLLER ASSY, PINCH	41	86-ZM2-225-310	0E	ARM, PINCH L
7	86-ZM2-254-010	0E	SPR-T, PIN BACK	42	86-ZM2-224-210	0E	ARM, PINCH R
8	86-ZM2-230-110	0E	SPR-T, PINCH L	43	86-ZM2-283-210	0E	CAP, SHAFT
9	86-ZM2-229-110	0E	SPR-T, PINCH R	44	86-ZM2-275-310	0E	CAP, SLIP R
10	86-ZM2-240-110	0E	CAP, REEL	45	86-ZM2-210-710	0E	LEVER, FR
11	86-ZM2-234-110	0E	SHAFT, REEL R	46	86-ZM2-211-210	0E	GEAR, FR
12	86-ZM2-251-310	0E	SHAFT, GEAR B	47	86-ZM2-213-210	0E	SPR-C, FR
13	86-ZM2-361-110	1C	CHAS ASSY, OUT-SERT P10	48	86-ZM2-291-010	1A	FLY WHL, L ASSY
14	86-ZM2-268-310	0E	SHAFT, PULLEY BELT 2	49	86-ZM2-282-010	0E	SH, AUTO 2
15	86-ZM2-232-310	0E	LEVER, REEL R	50	86-ZM2-342-110	1B	LEVER ASSY, EJECT
16	86-ZM2-306-010	0E	SPR-C, BT 2	51	86-ZM2-349-010	0E	SPR-E, EJECT
17	86-ZM2-243-310	0E	SPR-C, BT	52	8A-HT2-609-010	2A	HEAD, ASSY AHT-2
18	86-ZM2-329-210	0E	BELT, P5	53	86-ZM2-326-210	1C	HEAD ASSY, EH 6ZM-2 R2
19	86-ZM2-209-310	0E	GEAR, B	54	M8-6ZS-393-000	1H	ABL-63 D
20	86-ZM2-238-710	0E	GEAR, FF	A	86-ZM2-338-010	0E	W-L, 1.47-2.4-0.125 W/ADH
21	86-ZM2-245-510	0E	SPR-C, SLIP L	B	86-ZM2-296-110	0E	S-SCREW, +1.4-8.45
22	86-ZM2-237-010	0E	GEAR, PLAY	C	87-067-516-010	0E	PW, 3-1.58-0.25, SLIT
23	86-ZM2-241-410	0E	SPR-C, SLIP R	D	87-067-860-010	0E	PW, 3-0.95-0.4
24	86-ZM2-272-010	0E	LEVER, SW P 8.4	E	86-ZM2-364-010	0E	W-L, 1.47-2.4-0.188 W/ADH 0.05
25	86-ZM2-236-510	0E	CAP, SLIP	F	86-ZM2-319-010	0E	W-L, 0.95-3-0.35
26	86-ZM2-235-210	0E	SHAFT, REEL L	G	88-HK5-228-010	0E	S-SCREW, +1.4-2 CR
27	86-ZM2-223-310	0E	LEVER, PIN UP L	H	86-ZM2-278-010	0E	W-P, 1.36-4-0.2 SLT
28	86-ZM2-233-310	0E	LEVER, REEL L	I	87-261-500-310	0E	SCREW V+1.4-1.4 (BK)
29	86-ZM2-208-310	0E	GEAR, A				
30	86-ZM2-217-210	0E	SPR-E, CAM L				
31	86-ZM2-216-510	0E	LEVER, CAM L				
32	86-ZM2-276-010	0E	PULLEY, COUPLER				
33	86-ZM2-212-310	0E	SHAFT, FR				
34	86-ZM2-214-510	0E	LEVER, CAM R				
35	86-ZM2-215-210	0E	SPR-E, CAM R				

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