

# SERVICE MANUAL

---

CASSETTE RECORDER

BASIC TAPE MECHANISM : ZZM-6 R2NF

---

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" (S/M Code No. 09-007-435-9T1).

# SPECIFICATIONS

**Track system** 2 tracks 1 channel, monaural  
**Frequency response** 250 – 8,000 Hz EIAJ  
**Microphone** Electret condenser microphone (monaural)  
**Maximum output** 300 mW (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 50 mm, 8 ohms  
**Recording system** DC bias  
**Erasing system** Magnet erasure  
**Power sources** DC 3 V using two R6 (size AA) dry cell batteries  
 AC house current using the AC adaptor Aiwa AC-D302

<b>Battery life</b>	Battery	EIAJ Recording	EIAJ 10 mW
	Manganese (R6P) batteries	Approx. 5 hrs	Approx. 4 hrs
	Alkaline (LR6) batteries	Approx. 19 hrs	Approx. 15 hrs

**Maximum outside dimensions**  
 111.7 (W) x 84.3 (H) x 33.6 (D) mm  
 (excluding projecting parts and controls)

**Weight**  
 Approx. 152 g (excluding batteries)

- Design and specifications are subject to change without notice.

## ACCESSORIES / PACKAGE LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-HTA-905-010	IB, Y (EGF) S<Y>	
1	8A-HTA-907-010	IB, Y (PHNCZ) S<Y>	
1	8A-HTA-906-010	IB, Y (SID) S<Y>	
1	8A-HTA-902-010	IB, YHJ (ECC) S<YH, YHT>	
1	8A-HTA-903-010	IB, YJ (ECA) S<YJ>	
1	8A-HTA-904-010	IB, YL (3L) S<YL>	
2	87-PD3-050-010	STRAP, HAND	

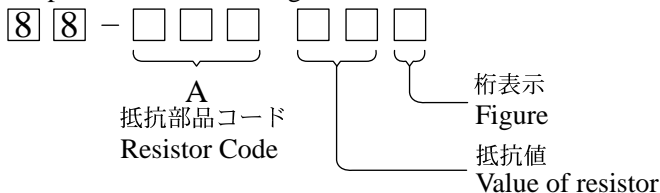
# ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
<b>IC</b>							
	87-A21-657-080	C-IC,AN7086S		C133	87-010-501-040		CAP,E 47-4
	87-A21-224-040	C-IC,LB1877M		C134	87-010-502-040		CAP,E GAS 100-4
<b>TRANSISTOR</b>							
	87-026-411-080	C-TR,RN1304		C141	87-010-821-040		CAP,E 100-4(MJ)
	89-341-165-080	C-TR,2SC4116GR		C142	87-A12-317-080		C-CAP,U 0.1-50 Z F
	89-333-266-080	C-TR,2SC3326B		C301	87-010-822-040		CAP,E 220-4(MJ)
	87-026-414-080	C-TR,RN1307		C302	87-010-822-040		CAP,E 220-4(MJ)
	87-A30-184-070	C-FET,2SJ106Y		C303	87-010-822-040		CAP,E 220-4(MJ)
	87-026-417-080	C-TR,RN1310		C305	87-A10-260-080		C-CAP,U 0.1-16 K B
<b>DIODE</b>							
	87-A40-822-040	C-DIODE,CRS01		C306	87-A10-260-080		C-CAP,U 0.1-16 K B
	87-001-167-080	DIODE,1SS302		C307	87-A10-260-080		C-CAP,U 0.1-16 K B
	87-001-166-080	DIODE,1SS301		C308	87-A10-828-080		C-CAP,U 0.33-6.3 K B
<b>MAIN C.B</b>							
C101	87-010-501-040	CAP,E 47-4 GAS		C310	87-A10-260-080		C-CAP,U 0.1-16 K B
C102	87-A10-504-080	C-CAP,U 0.047-16 K B		C311	87-A12-317-080		C-CAP,U 0.1-50 Z F
C103	87-010-505-080	C-CAP,TN 1-16		C312	87-A10-827-080		C-CAP,U 0.47-6.3 K B
C104	87-010-787-080	C-CAP,U 0.022-25		C313	87-A10-504-080		C-CAP,U 0.047-16 K B
C105	87-016-317-080	C-CAP,TN 2.2-6.3		C314	87-A12-317-080		C-CAP,U 0.1-50 Z F
C106	87-012-282-080	CAP,U 4700P-50		C451	87-A12-317-080		C-CAP,U 0.1-50 Z F
C107	87-012-278-080	C-CAP,U 2200P-50 K B		C452	87-A12-317-080		C-CAP,U 0.1-50 Z F
C108	87-016-317-080	C-CAP,TN 2.2-6.3		C453	87-016-396-080		C-CAP,U 0.22-16F
C109	87-A10-952-080	C-CAP,TN 22-4 M A MCM		J101	87-A61-294-010		JACK,3.5 MONO W/SW
C110	87-016-562-080	C-CAP,TN 4.7-10 SV A		J102	87-A61-294-010		JACK,3.5 MONO W/SW
C111	87-016-562-080	C-CAP,TN 4.7-10		J103	87-A61-124-010		JACK,DC DIA2.75 BLK TC
C112	87-010-788-080	C-CAP,U 0.033-25		MIC101	84-TM1-639-010		ECM,KUC3523
C113	87-A10-262-080	C-CAP,U 1-10 ZF		S101	87-036-082-010		SW,SL 2-2-2 MCS-2210
C115	87-012-267-080	C-CAP,U 270P-50 B		S103	87-A90-423-010		SW,LEAF
C119	87-012-267-080	C-CAP,U 270P-50 B		S141	87-036-379-180		C-SW,SL1-1-2 SS-350-A12B-C-T
C120	87-A10-262-080	C-CAP,U 1-10 ZF		S182	87-036-379-180		C-SW,SL1-1-2 SS-350-A12B-C-T
C121	87-012-282-080	CAP,U 4700P-50		S301	87-A90-423-010		SW,LEAF
C122	87-016-396-080	C-CAP,U 0.22-16F		SFR301	87-A91-653-040		C-SFR,K 33K H RH03AEC
C123	87-016-562-080	C-CAP,TN 4.7-10 SV A		SP101	87-A91-881-010		SPKR,50 8OHM 0.6W GENTOSEPM2000
C124	87-016-317-080	C-CAP,TN 2.2-6.3		TH301	87-A90-542-080		C-THMS,NTH5G2M35A472K04TE
C125	87-010-820-040	CAP,E 47-4 M MJ		VR101	87-024-654-010		VR,RTRY 20KAX2 1H XV 0102G
C126	87-010-503-040	CAP,E 220-4 GAS		VR301	87-A91-822-010		VR,RTRY 10KB H XV081PH1NCC-305
C128	87-A10-262-080	C-CAP,U 1-10 ZF		<b>LED C.B</b>			
C131	87-010-824-040	CAP,E 220-2(MJ)		LED401	87-A91-355-040		C-LED,BR1112H-TR-RED
C132	87-016-396-080	C-CAP,U 0.22-16F					

## 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

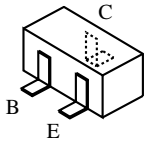
### Chip Resistor Part Coding



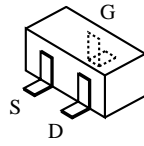
## チップ抵抗 Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法/Dimensions (mm)			抵抗コード : A Resistor Code : A	
				外形/Form	L	W		t
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
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	0.55	128

## TRANSISTOR ILLUSTRATION



2SC3326  
2SC4116  
RN1304  
RN1307  
RN1310



2SJ106

## ADJUSTMENT

### 1. Tape Speed Adjustment

- Settings:
- Test tape: TTA-100 (Tape center)
  - Test point: Phones Jack (J102)
  - Adjustment location: SFR301
  - PAUSE: OFF
  - VOLUME: Maximum
  - TAPE SPEED: Normal (Speed volume center)

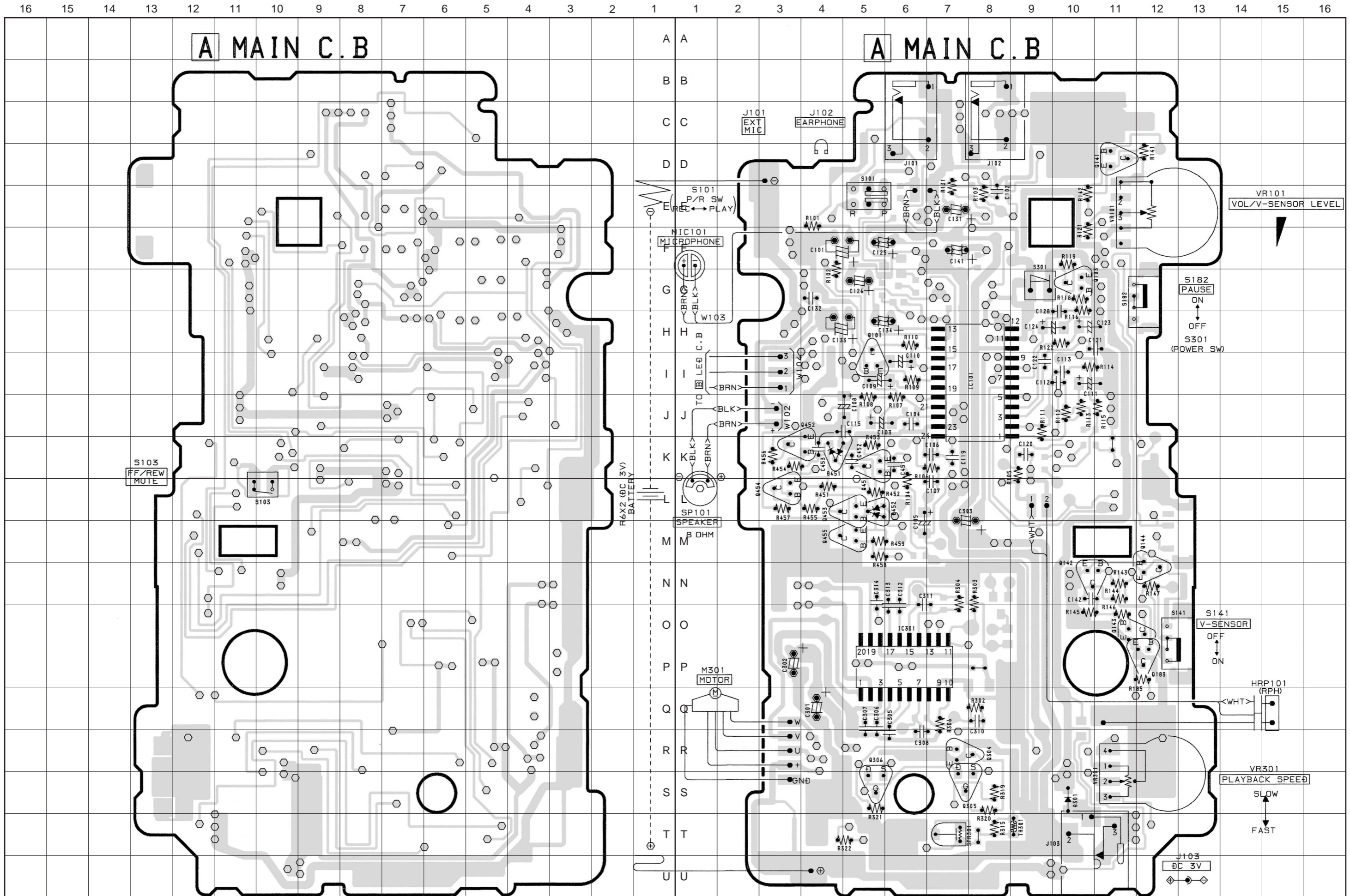
Method: Play back the test tape and adjust SFR301 for 3000Hz  $\pm$  10Hz.

### 2. Azimuth Adjustment

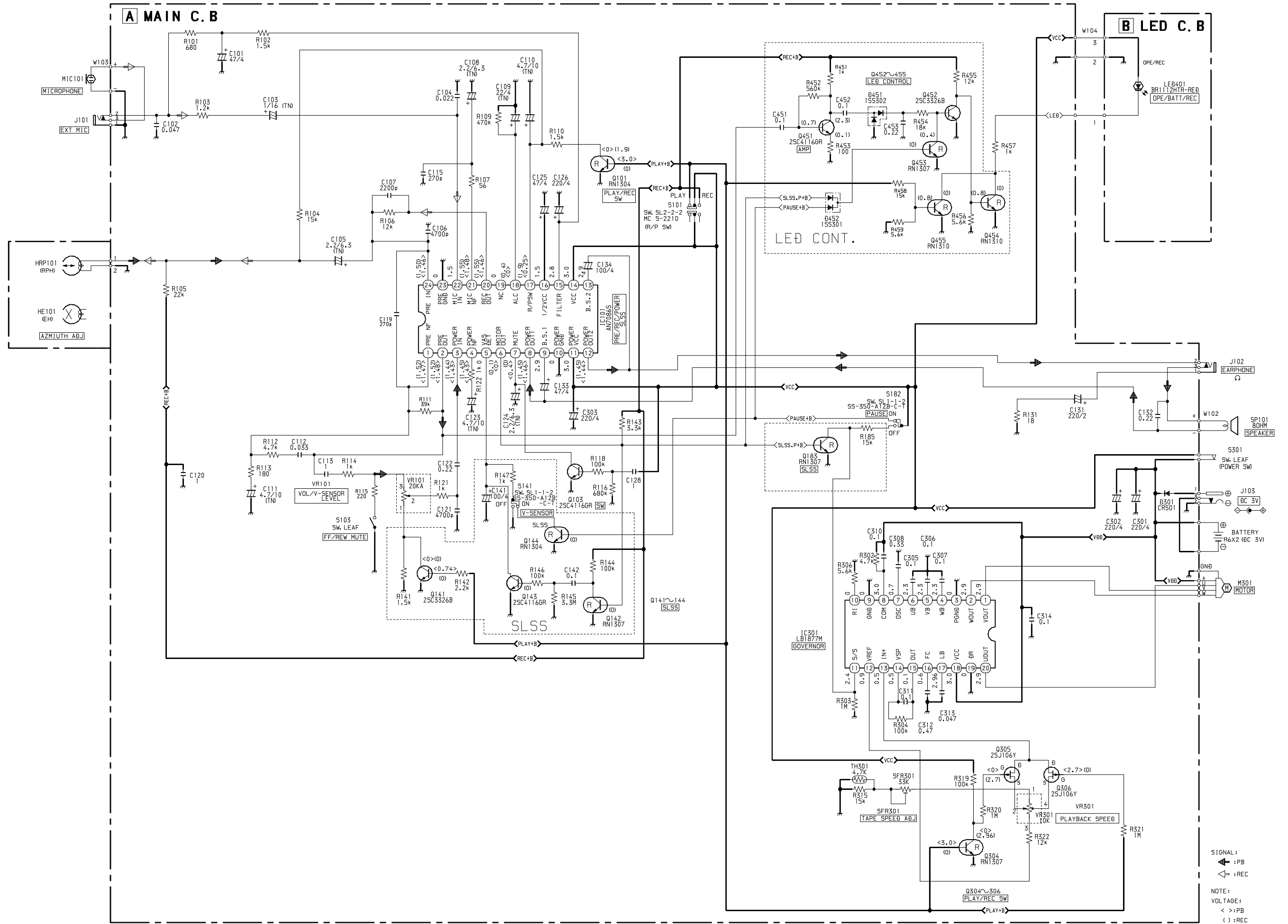
- Settings:
- Test tape: TTA-330
  - Test point: Phones Jack (J102)
  - Adjustment location: Head azimuth adjustment screw
  - PAUSE: OFF
  - VOLUME: Maximum
  - TAPE SPEED: Center

Method: Play back the test tape and adjust screw so that the output become maximum.

WIRING - 1 (MAIN)



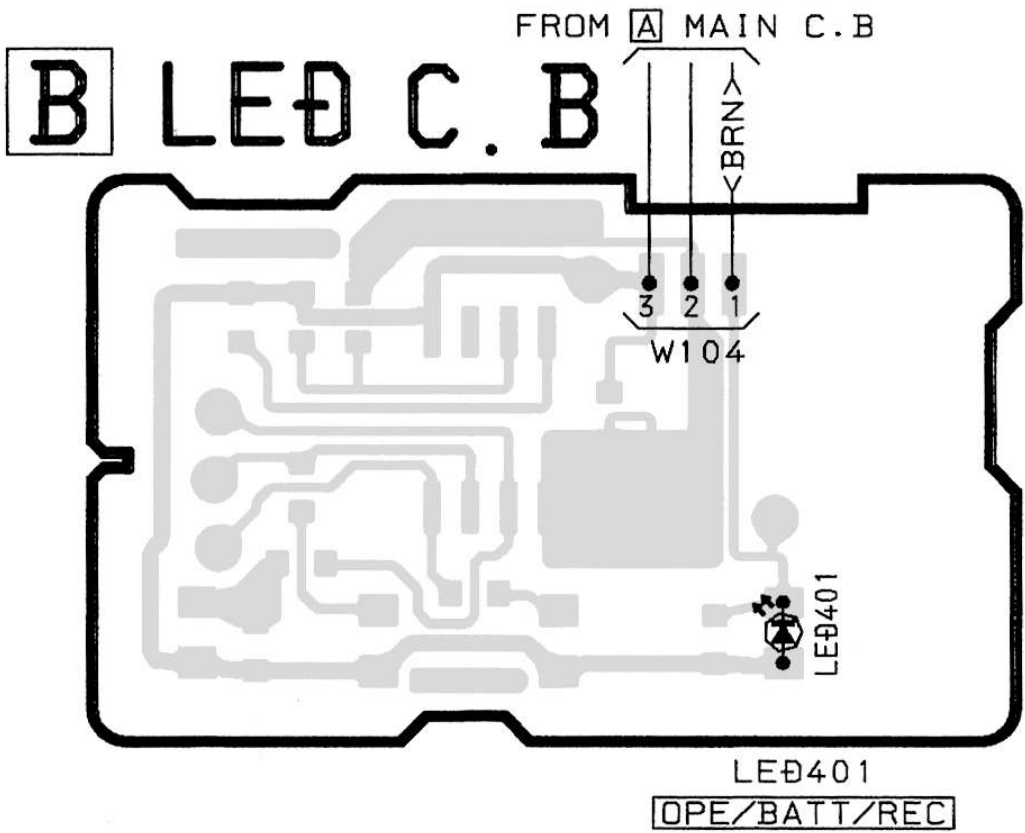
SCHEMATIC DIAGRAM



WIRING - 2 (LED)

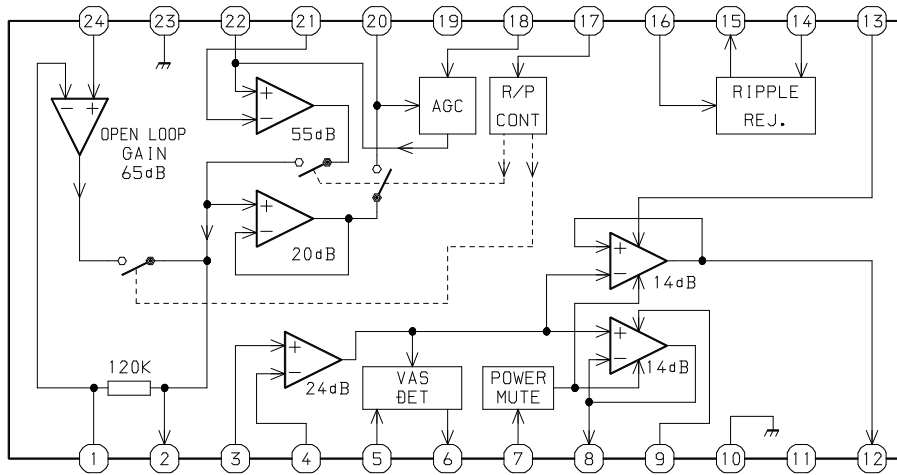
15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
----	----	----	----	----	----	---	---	---	---	---	---	---	---	---

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U

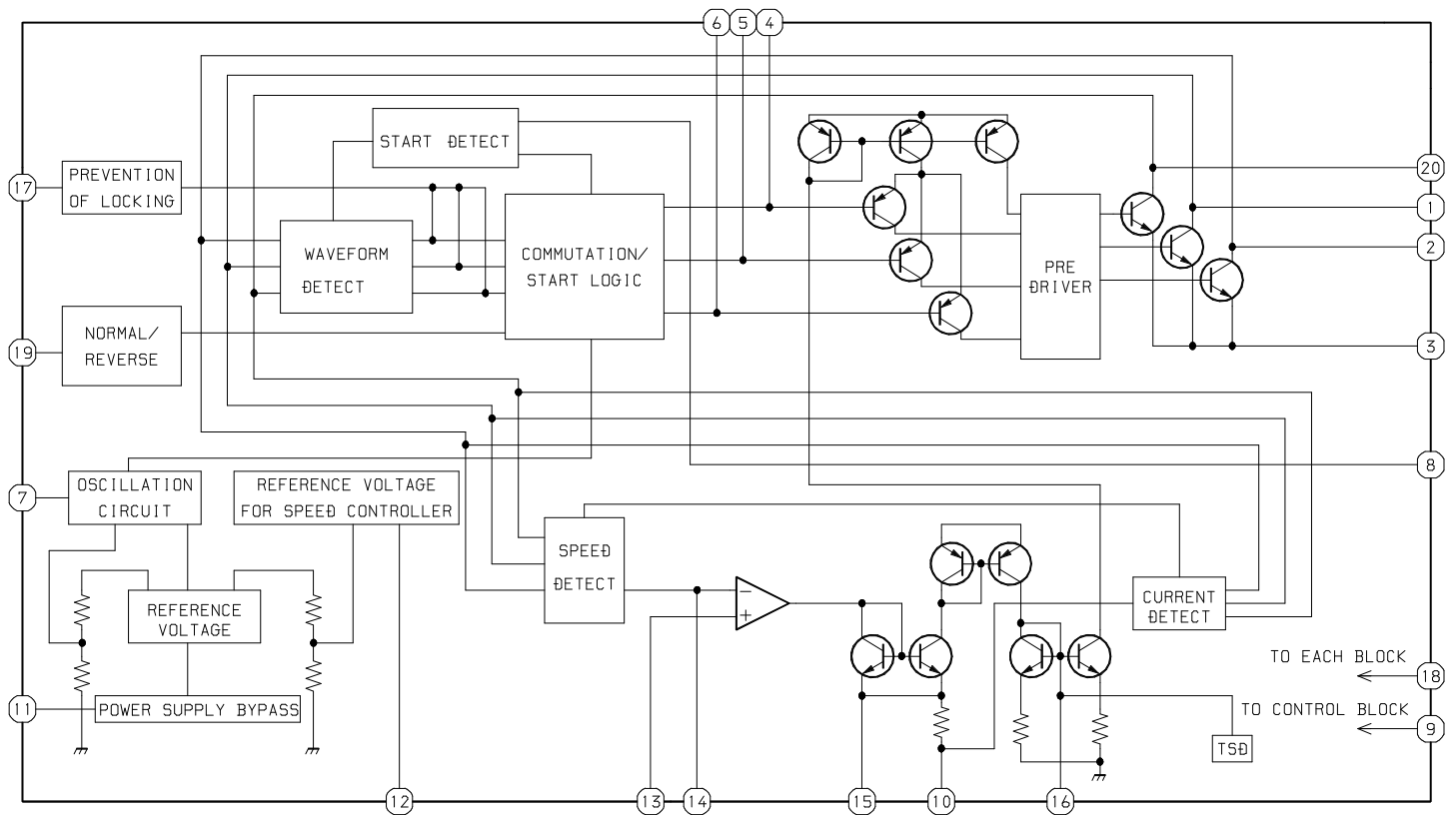


# IC BLOCK DIAGRAM

IC, AN7086S

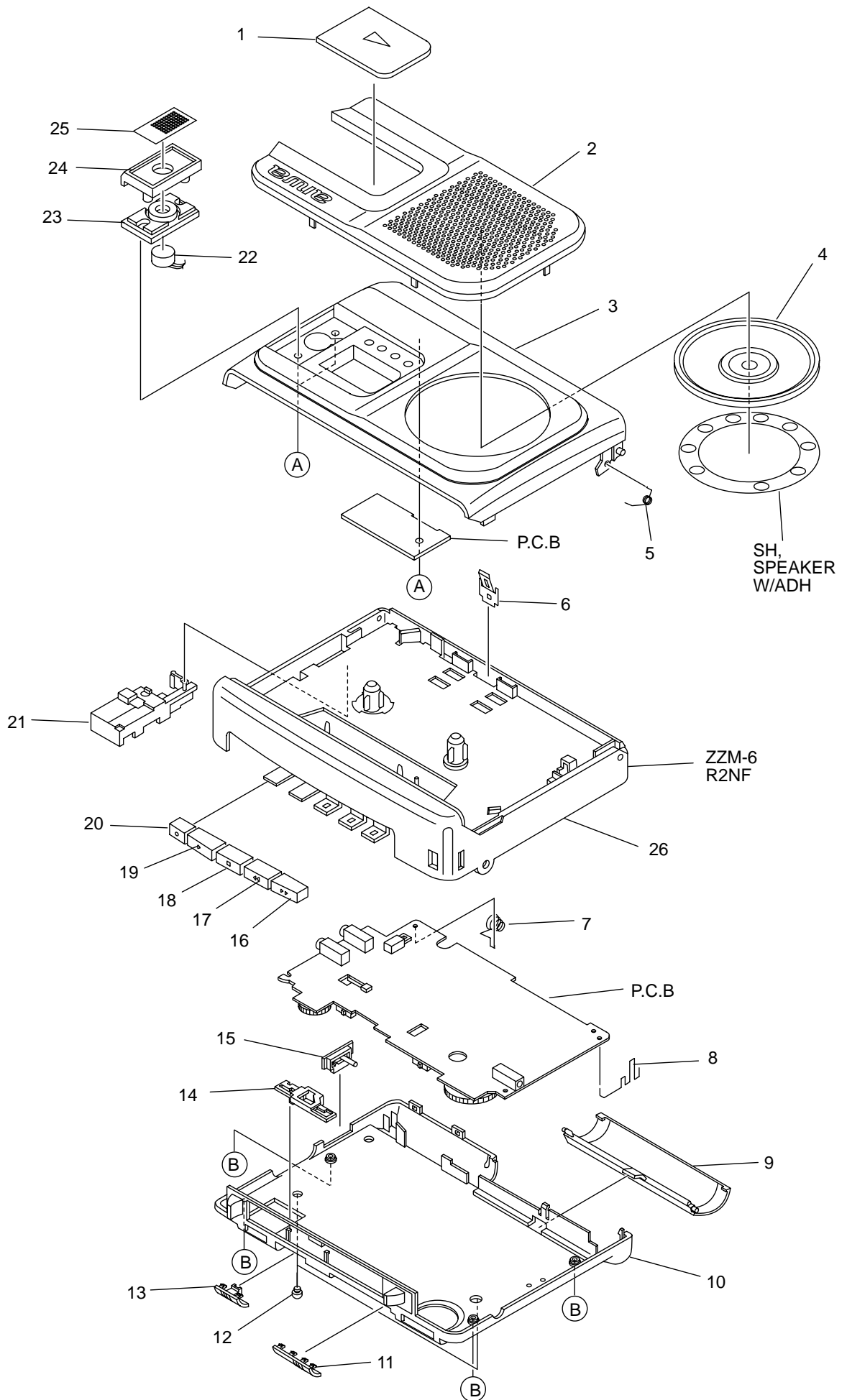


IC, LB1877M





MECHANICAL EXPLODED VIEW 1 / 1



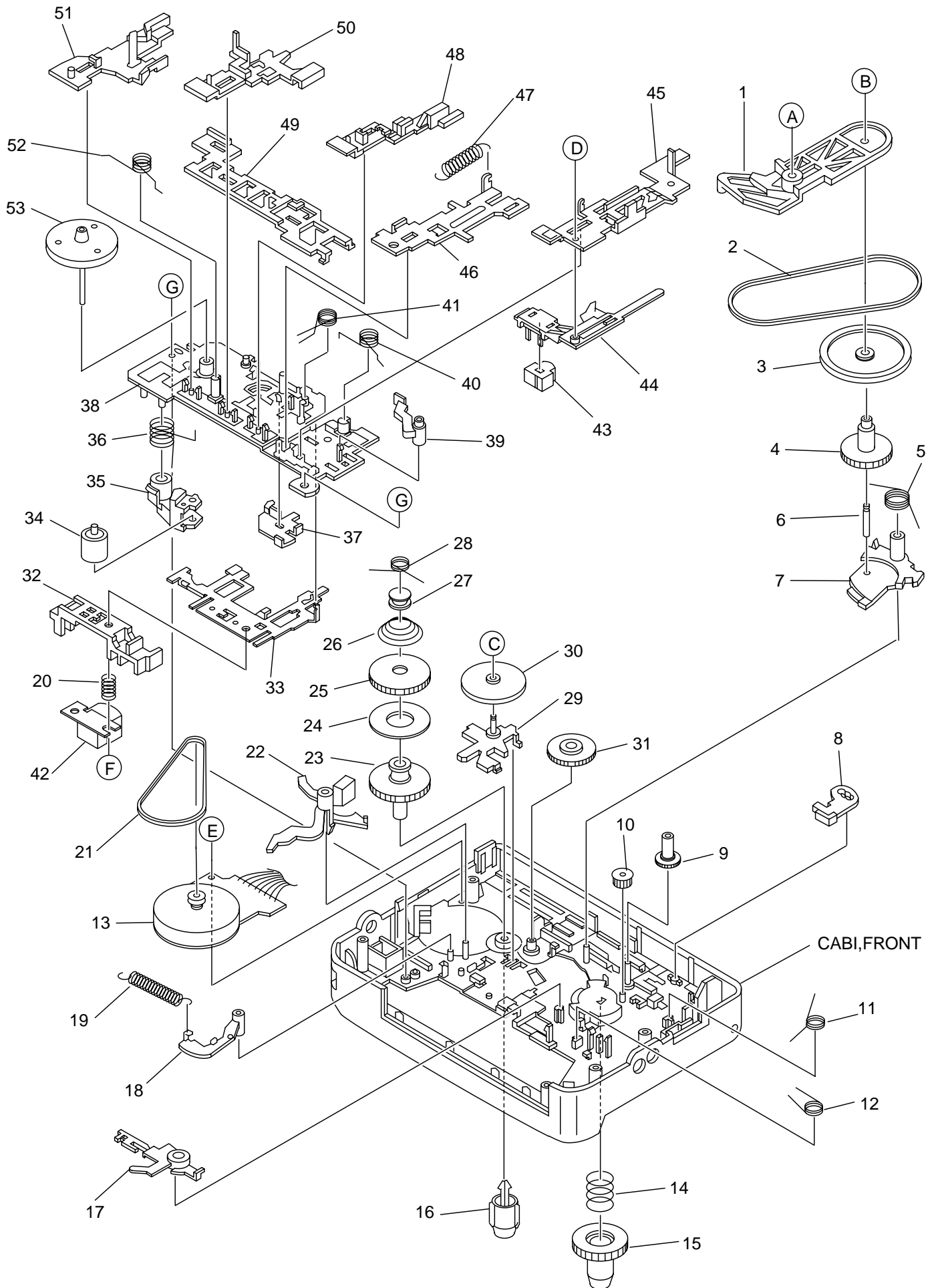
# MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-HT9-003-010		WINDOW,CASS
2	8A-HTA-008-010		PANEL,CASS Y B<[B]Y,[B]YL>
2	8A-HTA-004-010		PANEL,CASS Y S<[S]YH,[S]YHT,[S]YJ>
3	8A-HTA-006-010		LID,CASS Y B<[B]Y,[B]YL>
3	8A-HTA-005-010		LID,CASS Y S<[S]YH,[S]YHT,[S]YJ>
4	87-A91-881-010		SPKR,50 8OHM 0.6W GENTOSPM2000
5	8A-HT6-207-010		SPR-T,CASS
6	8A-HT6-214-010		SPR-P,CASS
7	8A-HT6-206-010		BAT-CONTACT, (-)
8	8A-HT6-205-010		BAT-CONTACT, (+)
9	8A-HT9-010-010		LID,BATT
10	8A-HTA-003-010		CABI,REAR
11	8A-HTA-010-010		KNOB,SL SLSS S
12	8A-HT6-208-010		FOOT,RUBBER
13	8A-HT9-005-010		KNOB,SL PAUSE
14	8A-HT6-204-010		LEVER,PAUSE
15	8A-HTA-009-010		BLIND,COUNTER B<[B]Y,[B]YL>
15	8A-HTA-001-010		BLIND,COUNTER S<[S]YH,[S]YHT,[S]YJ>
16	8A-HT6-018-010		BTN,FF
17	8A-HT6-017-010		BTN,REW
18	8A-HT6-016-010		BTN,STOP
19	8A-HT6-015-010		BTN,PLAY
20	8A-HT6-014-010		BTN,REC
21	8A-HT6-203-010		HLD, COUNTER
22	84-TM1-639-010		ECM,KUC3523
23	8A-HT7-201-010		COVER, MIC
24	8A-HT7-004-010		FRAME,MIC
25	8A-HT7-005-010		PLATE,MIC
26	8A-HT6-021-010		CABI,FRONT Y<[S]YH,[S]YHT,[S]YJ>
26	8A-HTA-007-010		CABI,FRONT Y B<[B]Y,[B]YL>
A	87-078-190-010		S-SCRW,+1.7-3HL B
B	87-B10-076-010		VT2+1.7-9 (3) CR

## COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange	PT	Transparent Pink

TAPE MECHANISM EXPLODED VIEW 1 / 1



# TAPE MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-ZM6-214-010		LEVER, CONTROL	31	8Z-ZM6-225-010		GEAR, IDL FF
2	8Z-ZM6-247-010		BELT, FF/REW	32	8Z-ZM6-221-010		HLDR, GUIDE TAPE
3	8Z-ZM6-232-010		PULLEY, FF/REW	33	8Z-ZM6-219-010		PLATE, HEAD
4	8Z-ZM6-224-010		GEAR, FF/REW	34	8Z-ZM6-258-110		ROLLER ASSY, PINCH ZZM-6
5	8Z-ZM6-240-010		SPR-T, GR FF/REW	35	88-ZM3-218-010		ARM, PINCH R
6	8Z-ZM6-248-010		SHAFT, FF/REW	36	8Z-ZM6-239-010		SPR-T, PINCH
7	8Z-ZM6-215-010		LEVER, FF/REW	37	8Z-ZM6-218-010		LEVER, MS
8	8Z-ZM6-217-010		LEVER, REC SEARCH	38	8Z-ZM6-201-010		CHAS ASSY, OUT-SERT
9	8Z-ZM6-226-010		GEAR, CNT PULLEY	39	8Z-ZM6-216-010		LEVER, SW
10	8Z-ZM6-257-010		GEAR, IDL COUNTER	40	8Z-ZM6-233-010		SPR-T, PLAY REC
11	8Z-ZM6-237-010		SPR-T, REC SEARCH	41	8Z-ZM6-235-110		SPR-T, STOP LOCK
12	8Z-ZM6-236-010		SPR-T, T-UP	42	87-A91-807-010		HEAD, RPH RP-5421
13	M8-6ZS-39A-040		ABL-63 FNF	43	87-A91-890-010		HEAD, EH NS-2600
14	87-ZM5-378-010		SPR-C, BT REC	44	8Z-ZM6-222-010		HLDR, EH
15	87-ZM5-276-010		GEAR, REEL L	45	8Z-ZM6-209-010		LEVER, REC
16	84-ZM2-216-210		REEL TABLE, R	46	8Z-ZM6-205-010		LEVER, PLAY
17	8Z-ZM6-210-010		LEVER, T-UP	47	8Z-ZM6-244-010		SPR-E, HLDR HEAD
18	8Z-ZM6-213-010		LEVER, AUTO KICK	48	8Z-ZM6-208-010		LEVER, STOP
19	8Z-ZM6-243-010		SPR-E, AUTO	49	8Z-ZM6-211-010		LEVER, LOCK
20	8Z-ZM6-241-010		SPR-C, AZIMUTH	50	8Z-ZM6-207-010		LEVER, REW
21	8Z-ZM6-266-010		BELT, MOT F	51	8Z-ZM6-206-010		LEVER, FF
22	8Z-ZM6-212-110		LEVER, AUTO FIND	52	8Z-ZM6-234-010		SPR-T, FF REW
23	8Z-ZM6-223-010		GEAR, SLIP T-UP	53	8Z-ZM6-271-010		FLY-WHL ASSY, ABL63
24	8Z-ZM6-249-010		FELT, SLIP	A	8Z-ZM6-254-010		W-P, 2.2-4.5-0.25 SLIT
25	8Z-ZM6-227-110		CLR, SLIP T-UP	B	87-067-693-010		PW, 3-0.8-0.25 SLT
26	8Z-ZM6-242-010		SPR-C, SLIP	C	8Z-ZM6-255-010		W-P, 1.0-2.1-0.25 SLIT
27	8Z-ZM6-230-010		CAP, AUTO	D	8Z-ZM6-260-010		S-SCREW, EH
28	8Z-ZM6-238-110		SPR-T, AUTO	E	87-067-732-010		TAPPING SCREW, VT1.4-3
29	8Z-ZM6-220-010		HLDR, CAM	F	8Z-ZM6-250-010		S-SCREW, AZIMUTH
30	8Z-ZM6-229-010		CLR ASSY, CAM	G	8Z-ZM6-251-010		S-SCREW, CHAS

**アイワ株式会社** 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)  
**AIWA CO.,LTD.** 2-11, IKENOHATA 1-CHOME, TAITO-KU, TOKYO 110, JAPAN TEL:03 (3827) 3111