

# SERVICE MANUAL

CASSETTE RECORDER

BASIC TAPE MECHANISM : ZZM-6 P2NF

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" (S/M Code No. 09-007-436-5T1).

## SPECIFICATIONS

<b>Track system:</b>	2 tracks 1 channel, monaural
<b>Frequency response:</b>	250-8000 Hz EIAJ
<b>Microphone:</b>	Electret condenser microphone (monaural)
<b>Maximum output:</b>	300 mW (EIAJ/DC)
<b>Input jack:</b>	EXT MIC jack (monaural mini-jack) (1)
<b>Output jack:</b>	EARPHONE jack (monaural mini-jack) (1)
<b>Other jack:</b>	DC 3 V jack
<b>Speaker:</b>	Diameter 50 mm, 8 ohms
<b>Recording system:</b>	DC bias
<b>Erasing system:</b>	Magnet erasure
<b>Power source:</b>	DC 3V using two R6 (size AA) dry cell batteries AC house current using the AC adaptor (Aiwa AC-D302)
<b>Battery life:</b>	See "Battery life" above
<b>Maximum outside dimensions:</b>	111.7 (W) x 84.3 (H) x 33.6 (D) mm (excluding projecting parts and controls)
<b>Weight:</b>	Approx.154 g (excluding batteries)

- Design and specifications are subject to change without notice.

# ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
<b>IC</b>				C133	87-010-501-040		E/CAP GAS 47-4
	87-A21-657-080	C-IC,AN7086S		C134	87-010-502-040		CAP ELECT GAS 100/4
	87-A21-224-040	C-IC,LB1877M		C141	87-010-821-040		CAP,E 100-4 (MJ)
<b>TRANSISTOR</b>				C142	87-A12-317-080		C-CAP,U 0.1-50 Z F
	87-026-411-080	C-TR RN1304		C301	87-010-822-040		CAP,E 220-4 (MJ)
	89-341-165-080	CHIP TRANSISTOR 2SC4116GR		C302	87-010-822-040		CAP,E 220-4 (MJ)
	89-333-266-080	CHIP TR,2SC3326B		C303	87-010-822-040		CAP,E 220-4 (MJ)
	87-026-414-080	C-TR RN1307		C305	87-A10-260-080		C-CAP,U 0.1-16 K B
	87-A30-184-070	C-FET,2SJ106Y		C306	87-A10-260-080		C-CAP,U 0.1-16 KB
	87-026-417-080	TR,RN1310		C307	87-A10-260-080		C-CAP,U 0.1-16 K B
<b>DIODE</b>				C308	87-A10-828-080		C-CAP,U 0.33-6.3 K B
	87-A40-822-040	C-DIODE,CRS01		C310	87-A10-260-080		C-CAP,U 0.1-16 K B
	87-001-167-080	DIODE,1SS302 (100MA)		C311	87-A12-317-080		C-CAP,U 0.1-50 Z F
	87-001-166-080	DIODE,1SS301		C312	87-A10-827-080		C-CAP,U 0.47-6.3 K B
<b>MAIN C.B</b>				C313	87-A10-504-080		C-CAP,U 0.047-16 K B
C101	87-010-501-040	CAP,E 47-4 M 5L		C314	87-A12-317-080		C-CAP,U 0.1-50 Z F
C102	87-A10-504-080	C-CAP,U 0.047-16 K B		C451	87-A12-317-080		C-CAP,U 0.1-50 Z F
C103	87-010-505-080	CA, CHIP TANTALUM 1-16		C452	87-A12-317-080		C-CAP,U 0.1-50 Z F
C104	87-010-787-080	CAP, U 0.022-25		C453	87-016-396-080		C-CAP,U 0.22-16F
C105	87-016-317-080	C-CAP,TN 2.2-6.3		J101	87-A61-294-010		JACK,3.5 MONO W/SW
C106	87-012-282-080	CAP, U 4700P-50		J102	87-A61-294-010		JACK,3.5 MONO W/SW
C107	87-010-278-080	C-CAP,2200P-50 K B		MIC101	84-TM1-639-010		ECM,KUC3523
C108	87-016-317-080	C-CAP,TN 2.2-6.3		S101	87-036-082-010		SLIDE SWITCH, 2-2-2
C109	87-A10-952-080	C-CAP,TN 22-4 M A MCM		S103	87-A90-423-010		SW,LEAF
C110	87-016-562-080	C-CAP,TN 4.7-10 SV A		S104	87-036-379-180		C-SW,SL1-1-2 SS350-A12B-C-T
C111	87-016-562-080	C-CAP, TN4.7-10		S141	87-036-379-180		C-SW,SL1-1-2 SS350-A12B-C-T
C112	87-010-788-080	C-CAP,U 0.033-2.5F		S182	87-036-379-180		C-SW,SL1-1-2 SS350-A12B-C-T
C113	87-A10-262-080	C-CAP,U 1-10 ZF		S301	87-A90-423-010		SW,LEAF
C115	87-012-267-080	C-CAP,U 270P-50 B		SFR301	87-A91-653-040		C-SFR,K 33K H RH03AEC
C119	87-012-267-080	C-CAP,U 270P-50 B		SP101	87-A91-881-010		SPKR,DIA 50 8OHM 0.6W GENTOSPM2000
C120	87-A10-262-080	C-CAP,U 1-10 ZF		TH301	87-A90-542-080		C-THMS,NTH5G2M35A472K04TE
C121	87-012-282-080	CAP, U 4700P-50		VR101	87-024-654-010		VR,RTRY 20KAX2 1H XV0102G
C122	87-016-396-080	C-CAP,U 0.22-16F		VR301	87-A91-822-010		VR,RTRY 10KB H XV081PH1NCC-305
C123	87-016-562-080	C-CAP,TN 4.7-10 SV A		<b>LED C.B</b>			
C124	87-016-317-080	C-CAP,TN 2.2-6.3		LED401	87-A91-355-040		C-LED,BR1112H-TR-RED
C125	87-010-820-040	CAP,E 47-4M MJ					
C126	87-010-503-040	CAP,E 220-4 GAS					
C128	87-A10-262-080	C-CAP,U 1-10 ZF					
C131	87-010-824-040	CAP,E 220-2 M MJ					
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



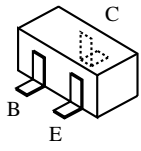
A  
抵抗部品コード  
Resistor Code

桁表示  
Figure  
抵抗値  
Value of resistor

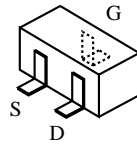
## チップ抵抗 Chip resistor

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



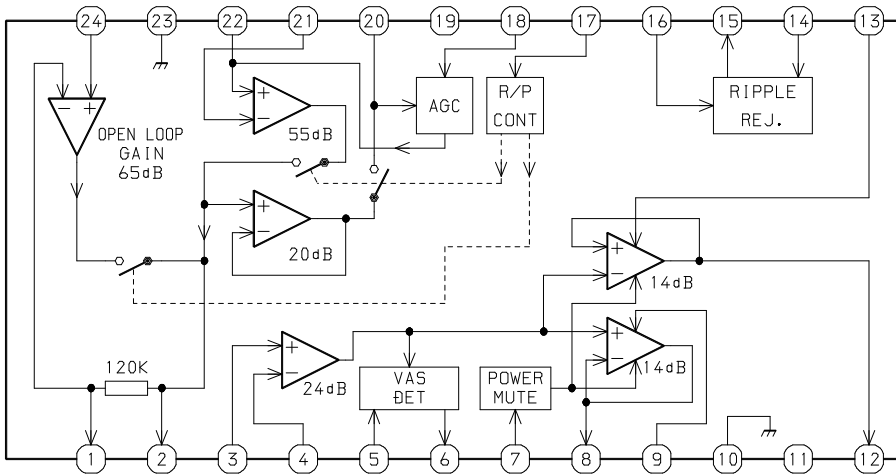
RN1304	2SC3326
RN1307	2SC4116
RN1310	2SC4213



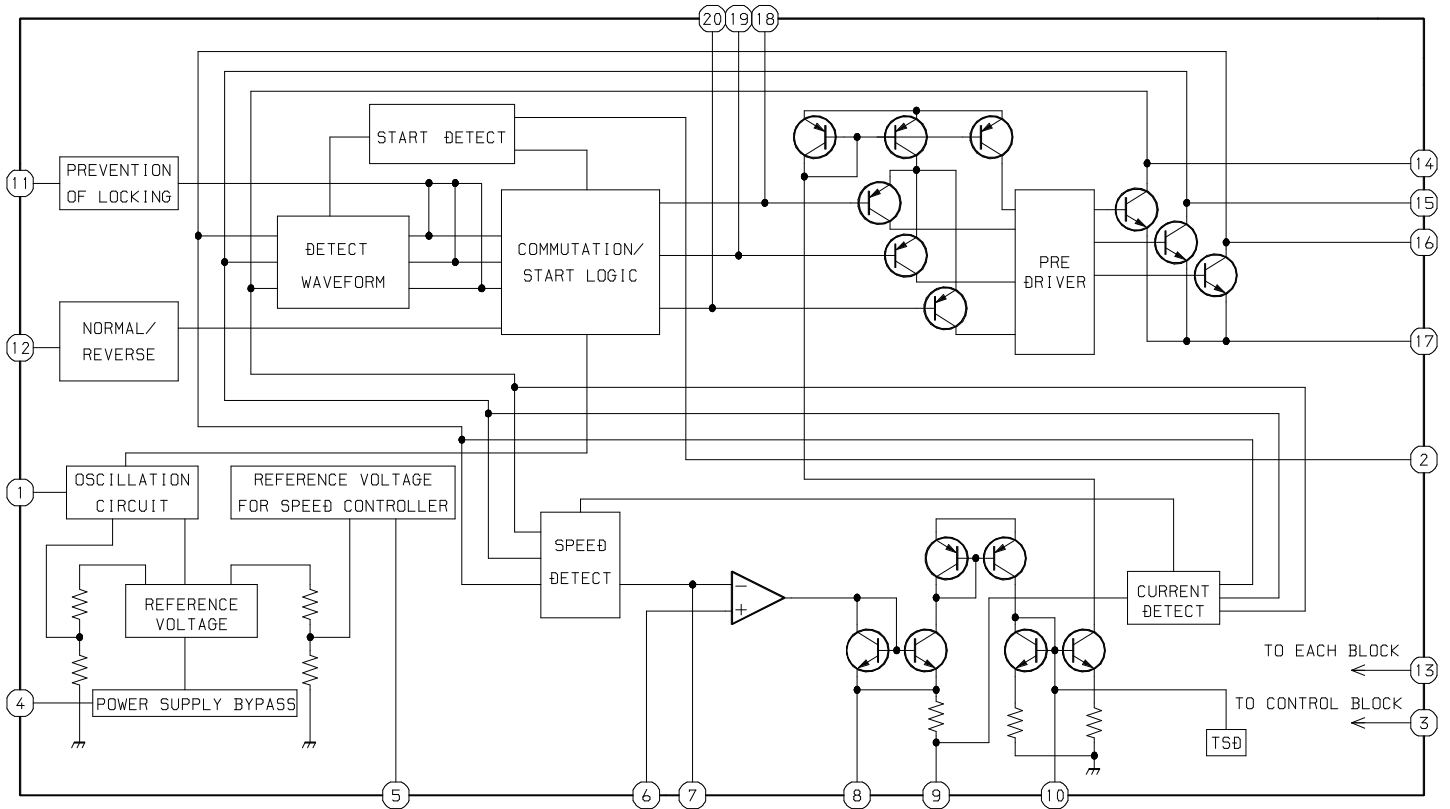
2SJ106

# IC BLOCK DIAGRAM

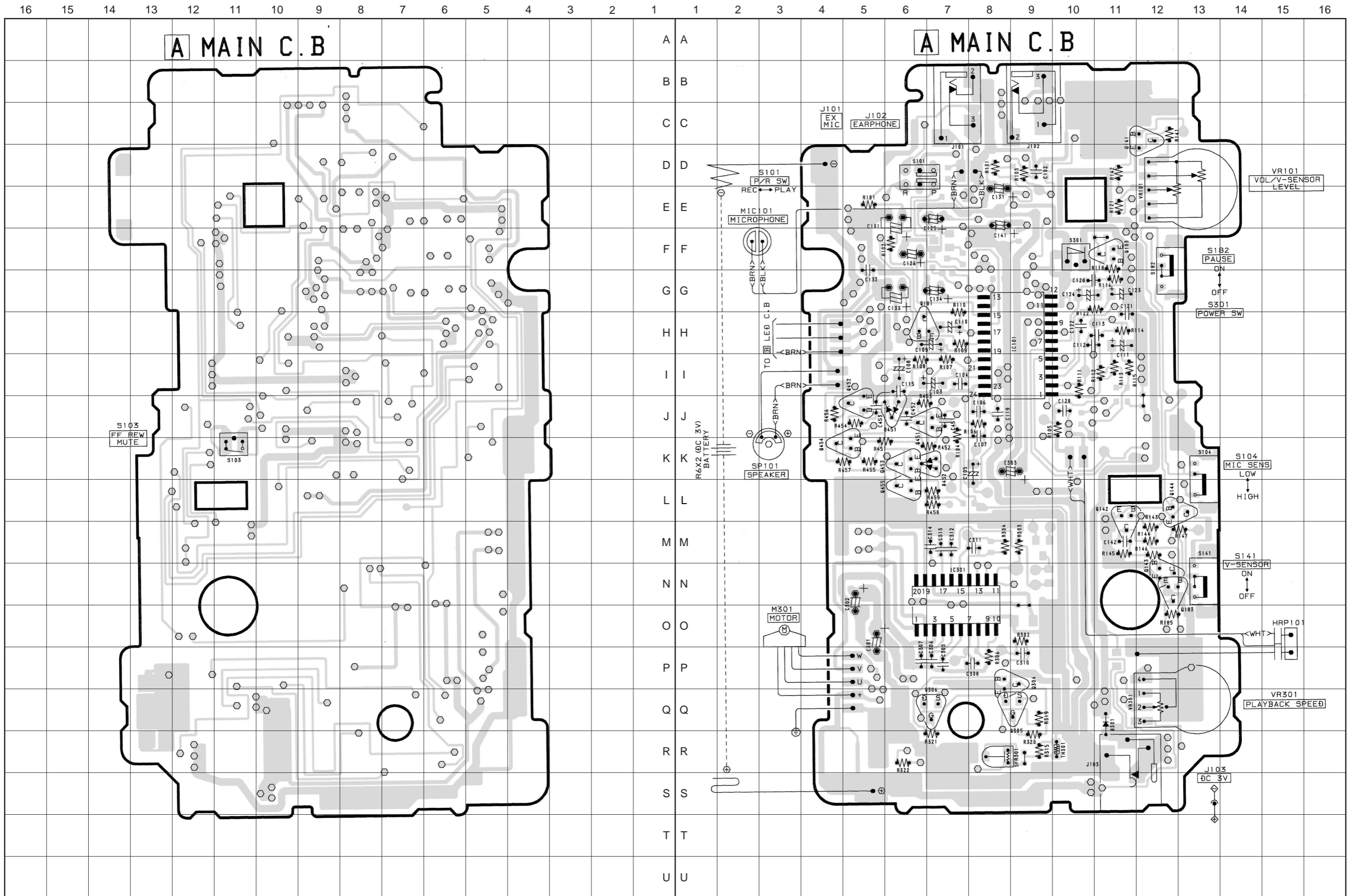
IC, AN7086S



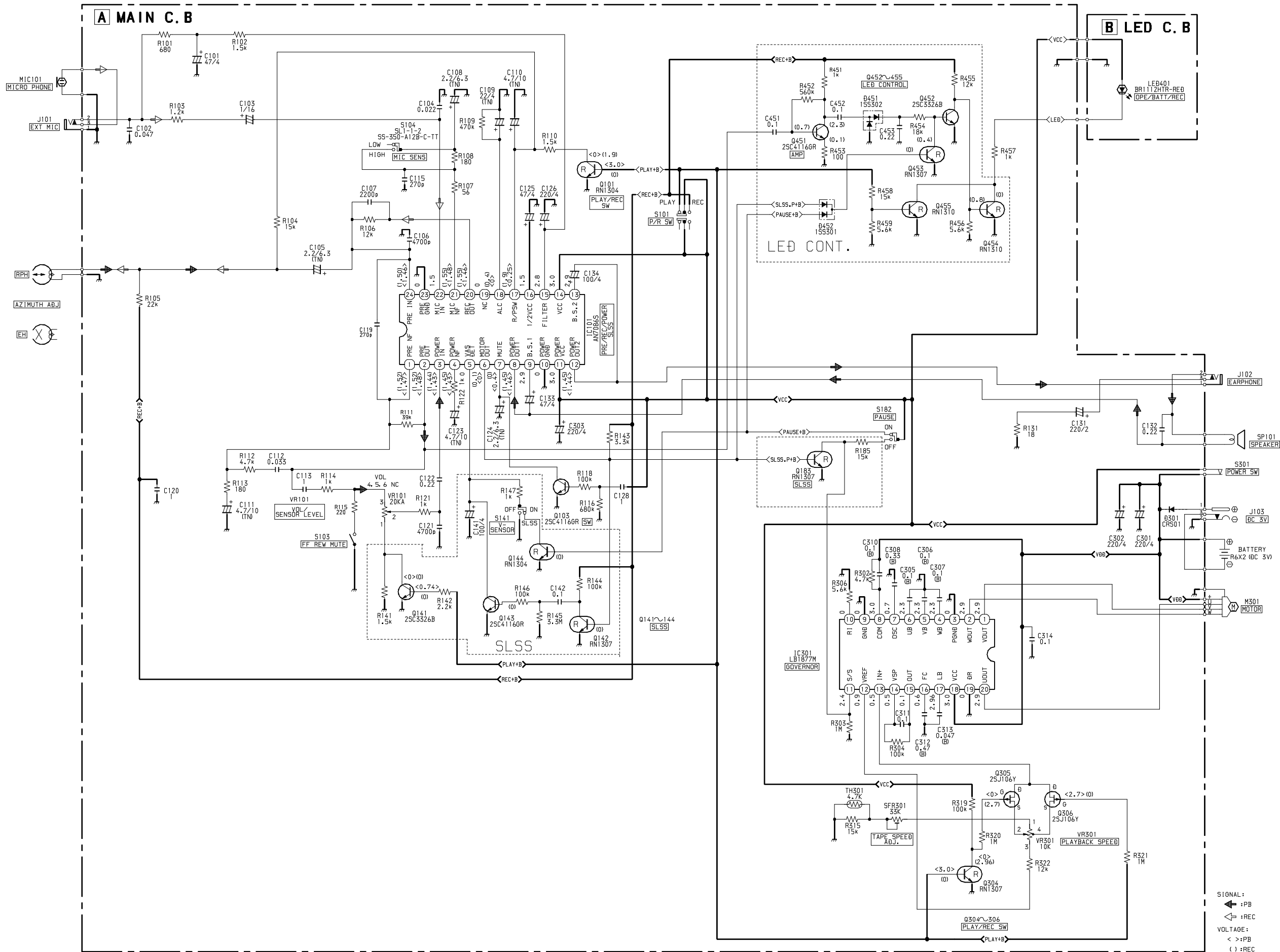
IC, LB1877M



WIRING - 1 (MAIN)

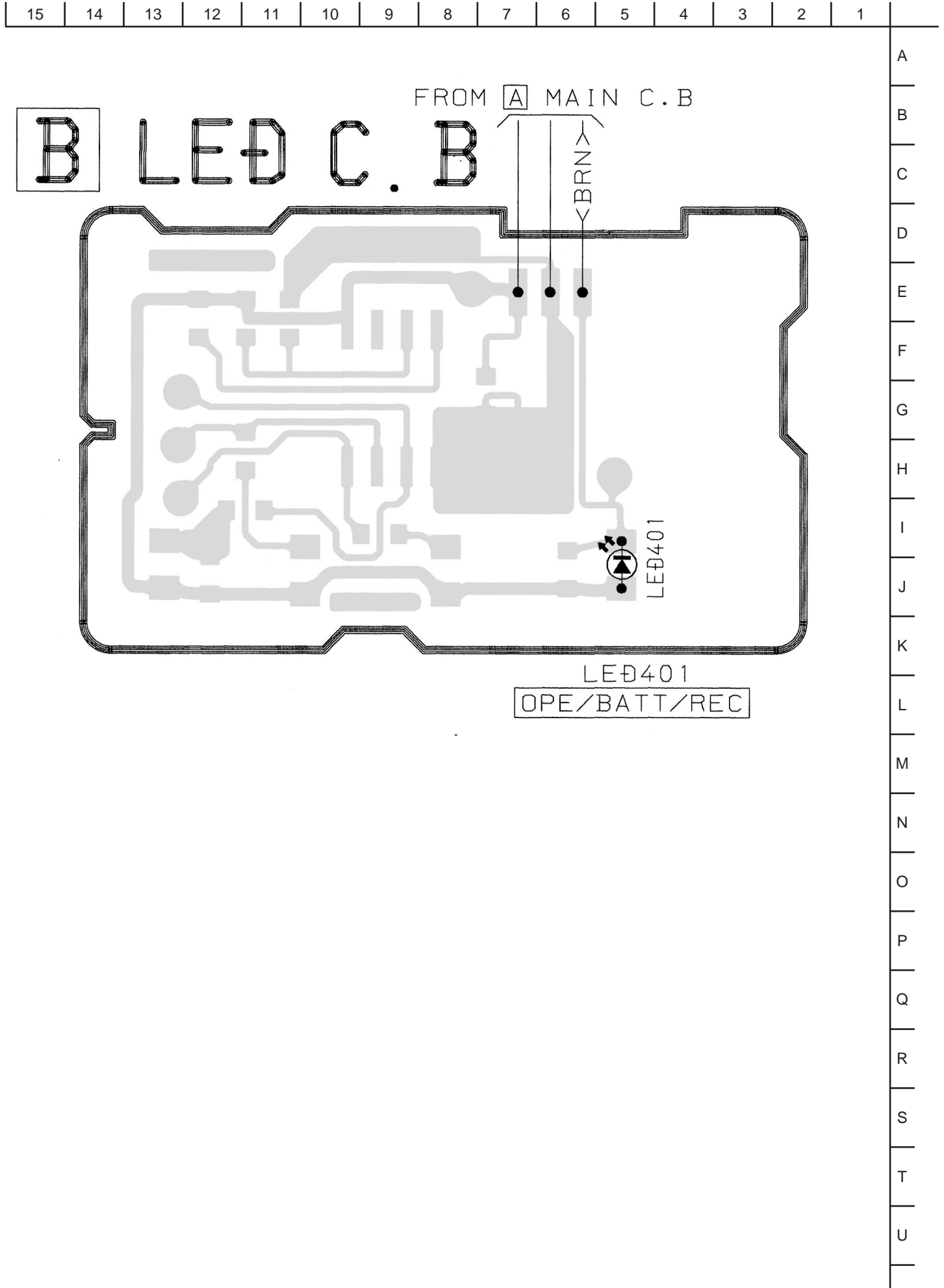


SCHEMATIC DIAGRAM



SIGNAL :  
 ← +PB  
 ⇐ +REC  
 VOLTAGE :  
 < > +PB  
 ( ) +REC

WIRING - 2 (LED)





## 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)

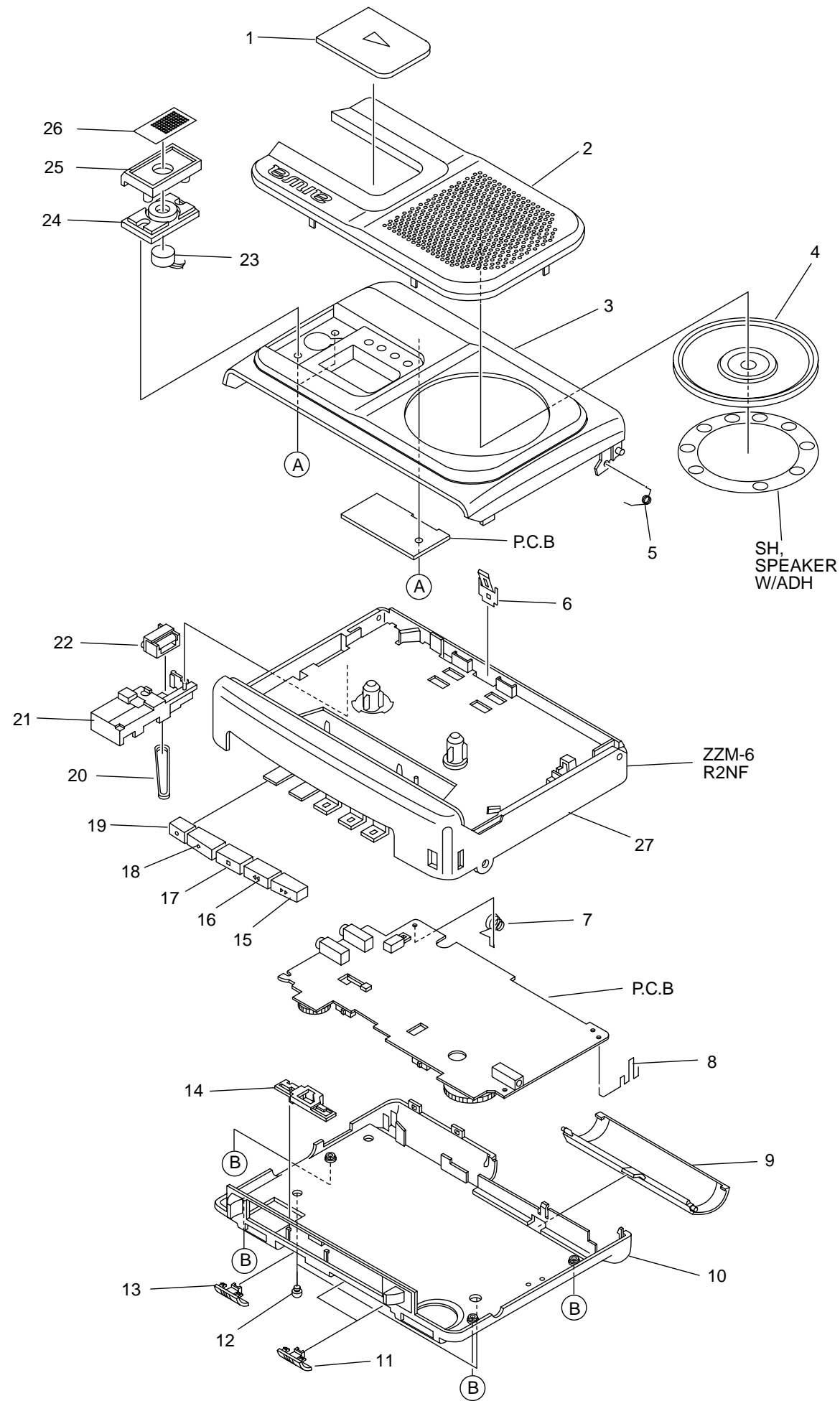
Method : Play back the test tape, adjust SFR301 for 3000 Hz  $\pm$  10 Hz and then confirm reverse side difference speed (FWD to REV) is less than 0.5%.

### 2. Azimuth Adjustment

- Settings :
- Test tape : TTA-330
  - Adjustment location : Head Azimuth Adjustment screw

Method : Play back the 3 KHz signal of the test tape and adjust screw so that output become maximum.

MECHANICAL EXPLODED VIEW 1 / 1



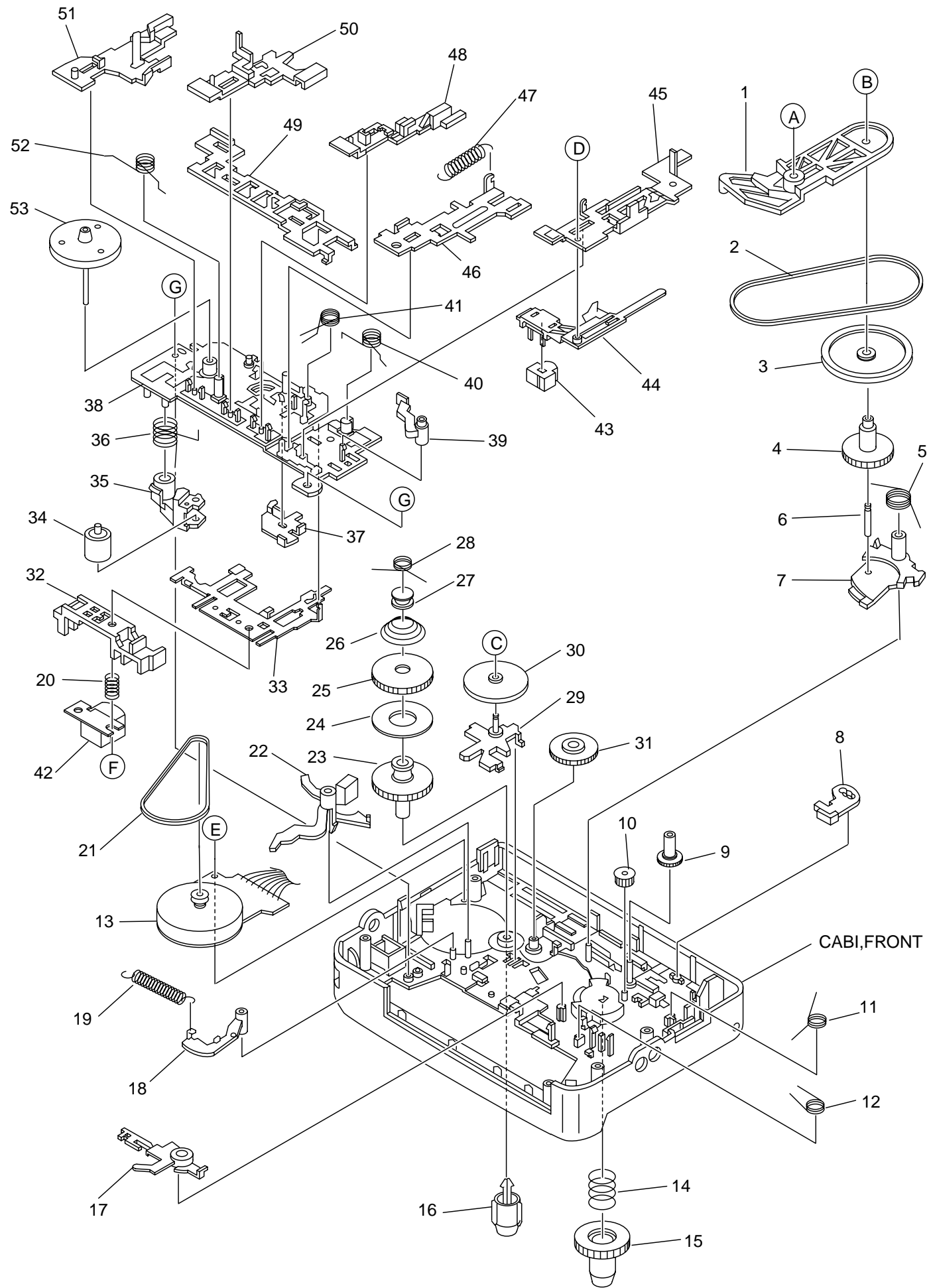
MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-HT7-003-010		WINDOW, CASS
2	8A-HT9-002-010		PANEL, CASS
3	8A-HT7-001-010		LID, CASS
4	87-A90-568-310		SPKR, DIA 50 8OHM
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-HT9-001-010		CABI, REAR
11	8A-HT9-004-010		KNOB, SL SLSS
12	8A-HT6-208-010		FOOT, RUBBER
13	8A-HT9-005-010		KNOB, SL PAUSE
14	8A-HT6-204-010		LEVER, PAUSE
15	8A-HT6-018-010		BTN, FF
16	8A-HT6-017-010		BTN, REW
17	8A-HT6-016-010		BTN, STOP
18	8A-HT6-015-010		BTN, PLAY
19	8A-HT6-014-010		BTN, REC
20	8A-HT6-209-010		BELT, COUNTER
21	8A-HT6-203-010		HLDR, COUNTER
22	87-HT6-221-010		COUNTER, MU331-001
23	84-TM1-639-010		ECM, KUC3523
24	8A-HT7-201-010		COVER, MIC
25	8A-HT7-004-010		FRAME, MIC
26	8A-HT7-005-010		PLATE, MIC
27	8A-HT6-021-010		CABI, FRONT Y
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
1	8Z-ZM6-214-010		LEVER,CONTROL
2	8Z-ZM6-247-010		BELT,FF/REW
3	8Z-ZM6-232-010		PULLEY,FF/REW
4	8Z-ZM6-224-010		GEAR,FF/REW
5	8Z-ZM6-240-010		SPR-T,GR FF/REW
6	8Z-ZM6-248-010		SHAFT,FF/REW
7	8Z-ZM6-215-010		LEVER,FF/REW
8	8Z-ZM6-217-010		LEVER,REC SEARCH
9	8Z-ZM6-226-010		GEAR,CNT PULLEY
10	8Z-ZM6-257-010		GEAR,IDL COUNTER
11	8Z-ZM6-237-010		SPR-T,REC SEARCH
12	8Z-ZM6-236-010		SPR-T,T-UP
13	M8-6ZS-39A-040		ABL-63 FNF
14	87-ZM5-378-010		SPR-C,BT REC
15	87-ZM5-276-010		GEAR,REEL L
16	84-ZM2-216-210		REEL TABLE,R
17	8Z-ZM6-210-010		LEVER,T-UP
18	8Z-ZM6-213-010		LEVER,AUTO KICK
19	8Z-ZM6-243-010		SPR-E,AUTO
20	8Z-ZM6-241-010		SPR-C,AZIMUTH
21	8Z-ZM6-266-010		BELT,MOT F
22	8Z-ZM6-212-110		LEVER,AUTO FIND
23	8Z-ZM6-223-010		GEAR,SLIP T-UP
24	8Z-ZM6-249-010		FELT,SLIP
25	8Z-ZM6-227-110		CLR,SLIP T-UP
26	8Z-ZM6-242-010		SPR-C,SLIP
27	8Z-ZM6-230-010		CAP,AUTO
28	8Z-ZM6-238-110		SPR-T,AUTO
29	8Z-ZM6-220-010		HLD, CAM
30	8Z-ZM6-229-010		CLR ASSY,CAM
31	8Z-ZM6-225-010		GEAR,IDL FF
32	8Z-ZM6-221-010		HLD, GUIDE TAPE
33	8Z-ZM6-219-010		PLATE,HEAD
34	8Z-ZM6-258-110		ROLLER ASSY,PINCH ZZM-6
35	88-ZM3-218-010		ARM,PINCH R
36	8Z-ZM6-239-010		SPR-T,PINCH
37	8Z-ZM6-218-010		LEVER,MS
38	8Z-ZM6-201-010		CHAS ASSY,OUT-SERT
39	8Z-ZM6-216-010		LEVER,SW
40	8Z-ZM6-233-010		SPR-T,PLAY REC
41	8Z-ZM6-235-110		SPR-T,STOP LOCK
42	87-A91-807-010		HEAD,RPH RP-5421
43	87-A91-890-010		HEAD,EH NS-2600
44	8Z-ZM6-222-010		HLD, EH
45	8Z-ZM6-209-010		LEVER,REC
46	8Z-ZM6-205-010		LEVER,PLAY
47	8Z-ZM6-244-010		SPR-E,HLD, HEAD
48	8Z-ZM6-208-010		LEVER,STOP
49	8Z-ZM6-211-010		LEVER,LOCK
50	8Z-ZM6-207-010		LEVER,REW
51	8Z-ZM6-206-010		LEVER,FF
52	8Z-ZM6-234-010		SPR-T,FF REW
53	8Z-ZM6-271-010		FLY-WHL ASSY,ABL63
A	8Z-ZM6-254-010		W-P,2.2-4.5-0.25 SLIT
B	87-067-693-010		PW,3-0.8-0.25 SLT
C	8Z-ZM6-255-010		W-P,1.0-2.1-0.25 SLIT
D	8Z-ZM6-260-010		S-SCREW,EH
E	87-067-732-010		TAPPING SCREW, VT1.4-3
F	8Z-ZM6-250-010		S-SCREW,AZIMUTH
G	8Z-ZM6-251-010		S-SCREW,CHAS

## ACCESSORIES / PACKAGE LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-HT9-902-010		IB, YHJ (ECC) S<YH, YJ>
1	8A-HT9-904-010		IB, YL (3L) S<YL>
1	8A-HT9-905-010		IB, Y (EGF) S<YS>
1	8A-HT9-906-010		IB, Y (SID) S<YS>
1	8A-HT9-905-010		IB, Y (PHNCZ) S<YS>
2	87-PD3-050-010		STRAP, HAND

**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)  
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