

SERVICE MANUAL

CASSETTE RECORDER

BASIC TAPE MECHANISM : TN-9XR-112

This Service Manual is the "Revision Publishing" and replaces "Simple Manual"
(S/M Code No. 09-99A-337-1T1).

SPECIFICATIONS

<Cassette recorder section>

Track system	2 tracks 1 channel, monaural (Recording) 4 tracks 2 channels, stereo (Playback)
Frequency response	250 - 8,000 Hz (EIAJ Recording)
Recording system	AC bias
Erasing system	Magnet erasure

<Built-in IC section>

Frequency response	400 - 3,500 Hz
Recording time	10 seconds x 2 (IC repeat 60 sec/10 sec switch is set to 10 sec) 60 seconds x 2 (IC repeat 60 sec/10 sec switch is set to 60 sec)

<Common section>

Microphone	Electret condenser microphone (monaural)
Maximum output	300 mW (EIAJ 4 ohms/DC) 10 mW+10 mW (EIAJ/16 ohms)
Input jack	EXT MIC jack (monaural mini-jack) (1)
Output jack	PHONES jack (stereo mini-jack) (1)
Other jack	DC 3 V jack
Speaker	Diameter 50 mm, 4 ohms (monaural)
Power sources	DC 3 V using two R6 (size AA) dry cell batteries AC house current using the AC adaptor Aiwa AC-D302

Battery life

Battery	EIAJ Recording	EIAJ 10 mW
Manganese (R6P) Batteries	Approx. 5 hrs	Approx. 3.5 hrs
Alkaline (LR) batteries	Approx. 18.5 hrs	Approx. 13.5hrs

Dimensions
113.5 (W) x 90 (H) x 38.4 (D) mm
(4¹/₂ x 3⁵/₈ x 1⁹/₁₆ in.)

Weight
Approx. 171 g, 5.9 oz (excluding batteries)

- Design and specifications are subject to change without notice.

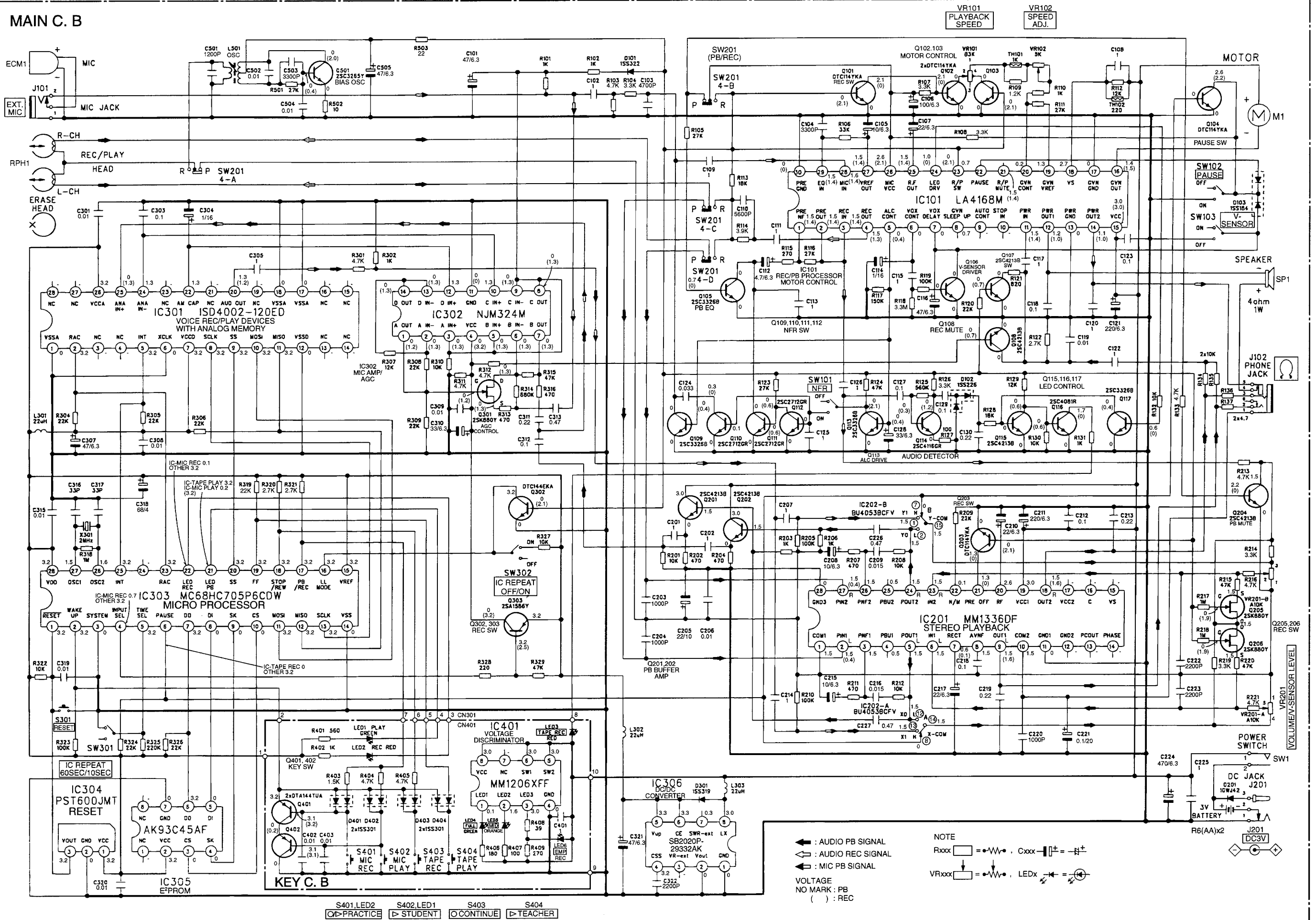
ACCESSORIES LIST

DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

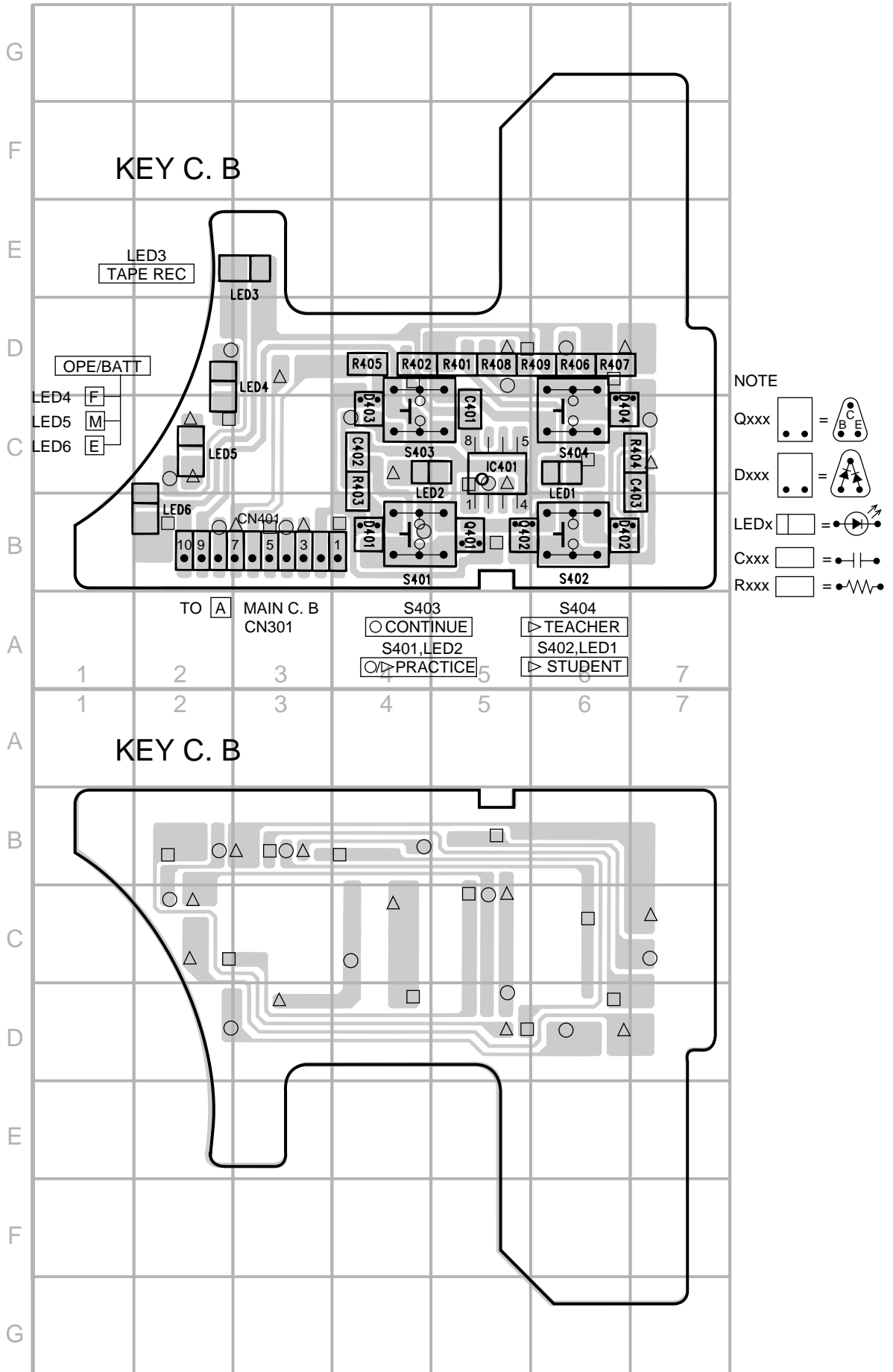
REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-HT5-905-010	IB, YH(ECK)C	
2	87-B30-240-010	HEADPHONE, HP-M035	
3	87-PD3-050-010	STRAP, HAND	

SCHEMATIC DIAGRAM

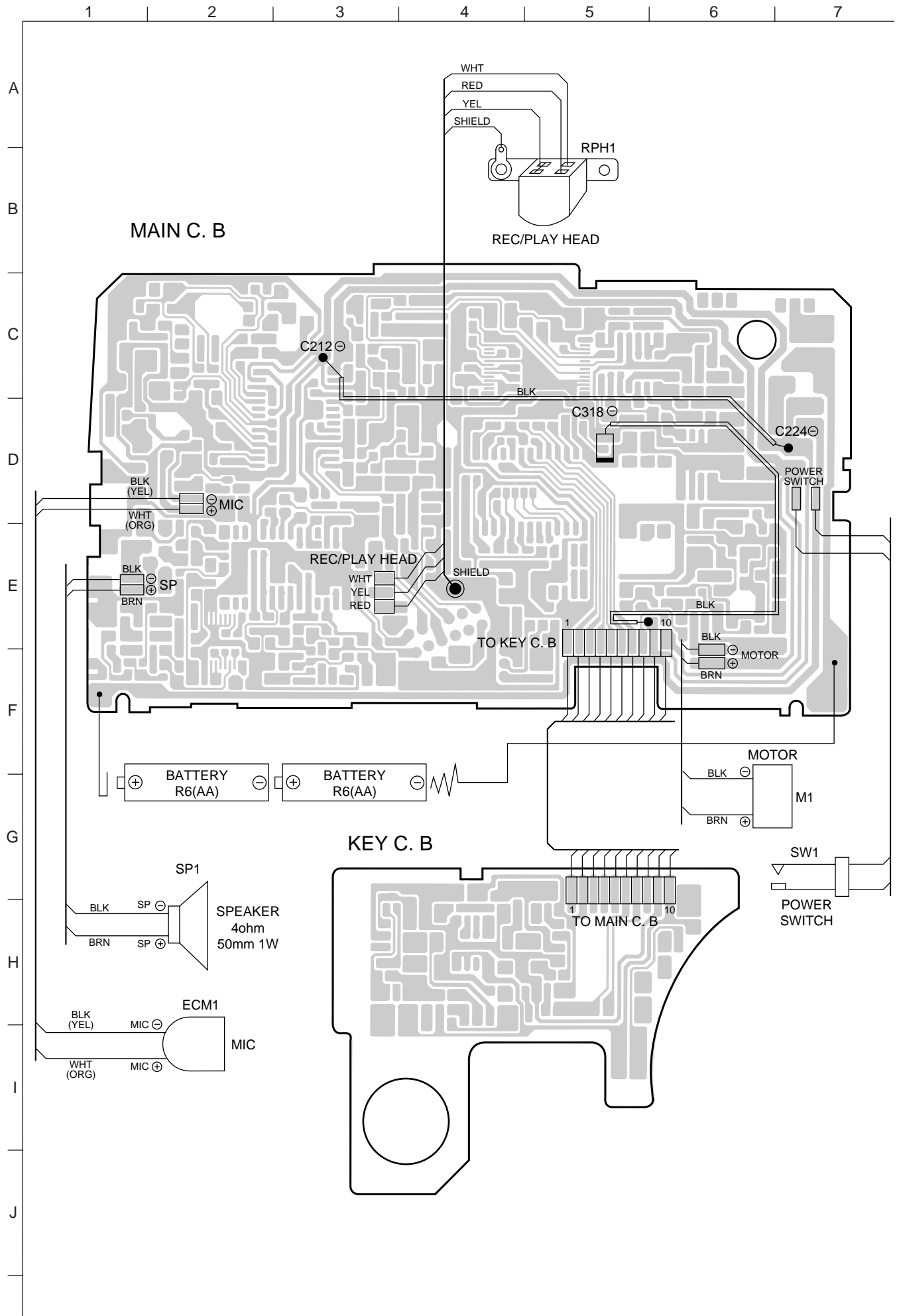
MAIN C. B

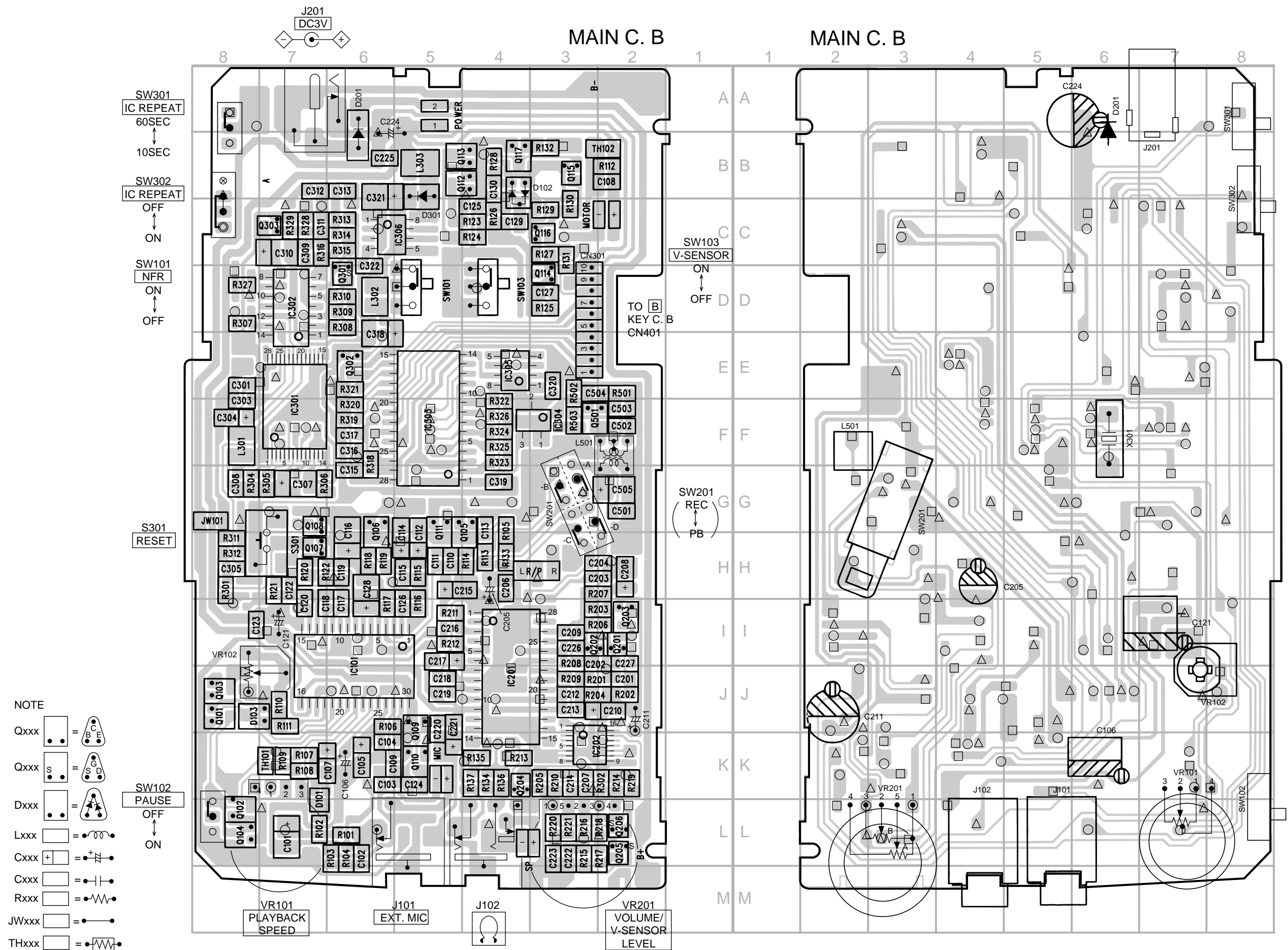


WIRING-1 (KEY C.B SECTION)



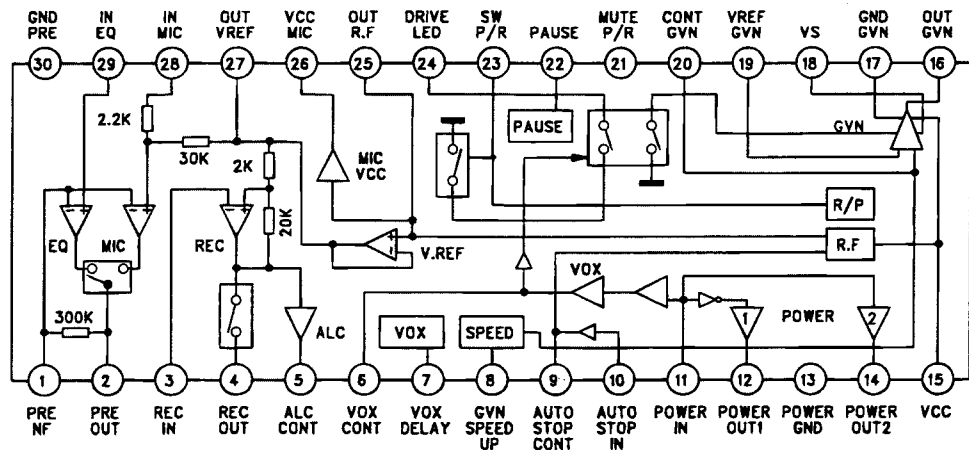
WIRING-2



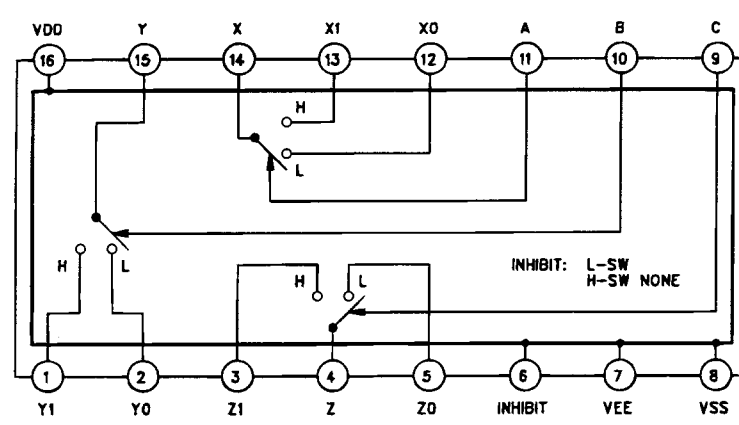


IC BLOCK DIAGRAM

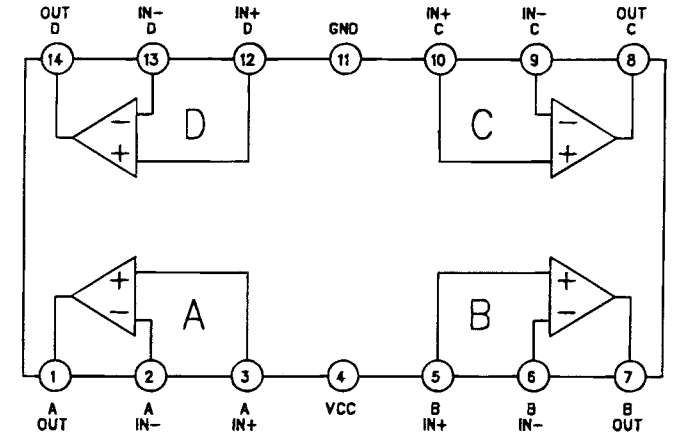
IC, LA4168M



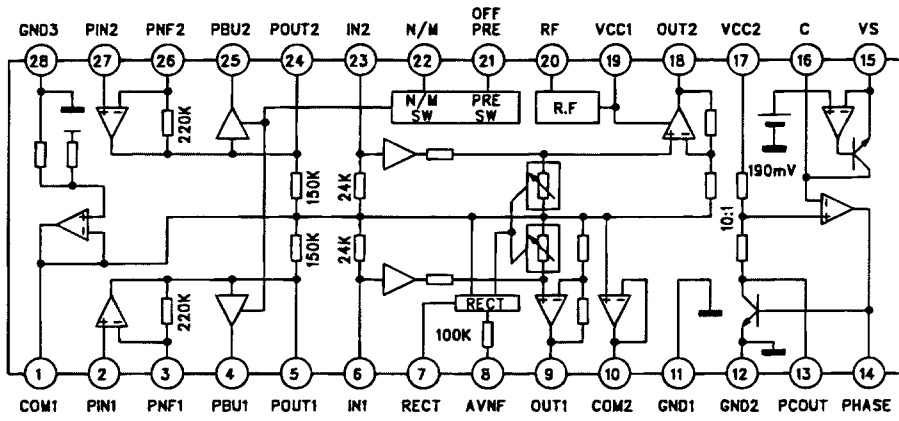
IC, BU4053BCFV



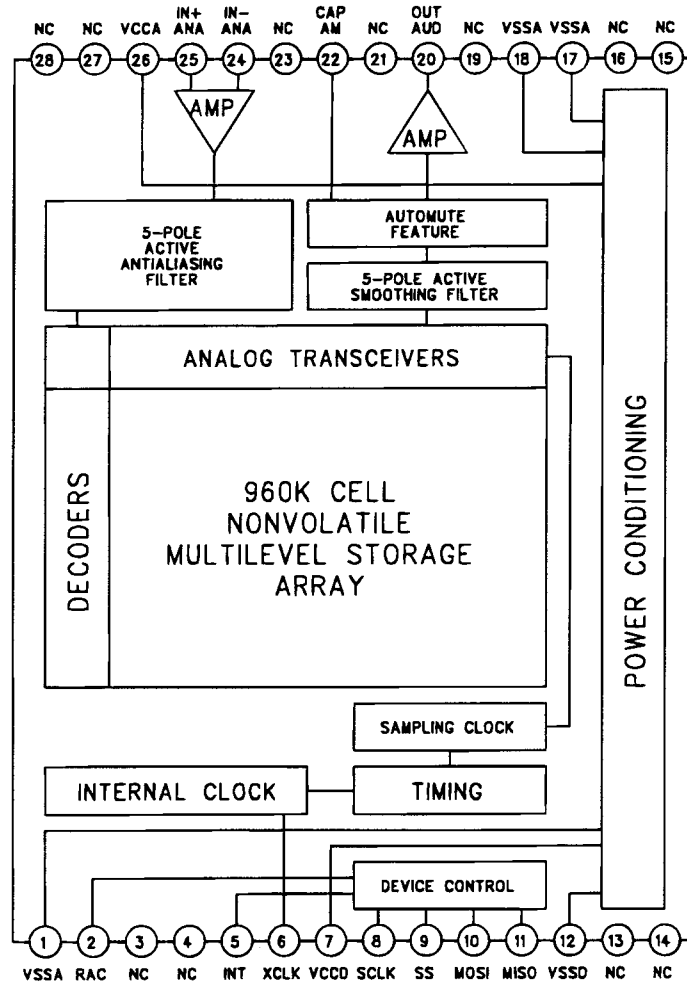
IC, NJM324M



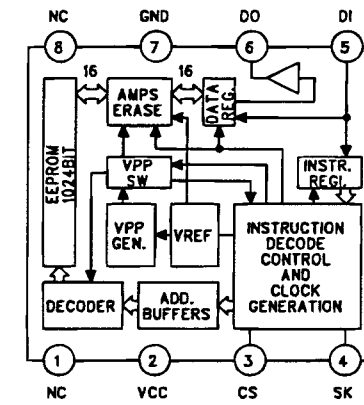
IC, MM1336DF



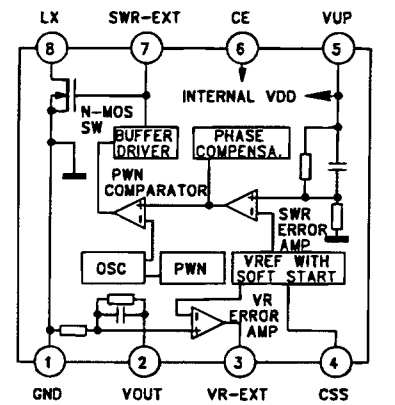
IC, ISD4002-120ED



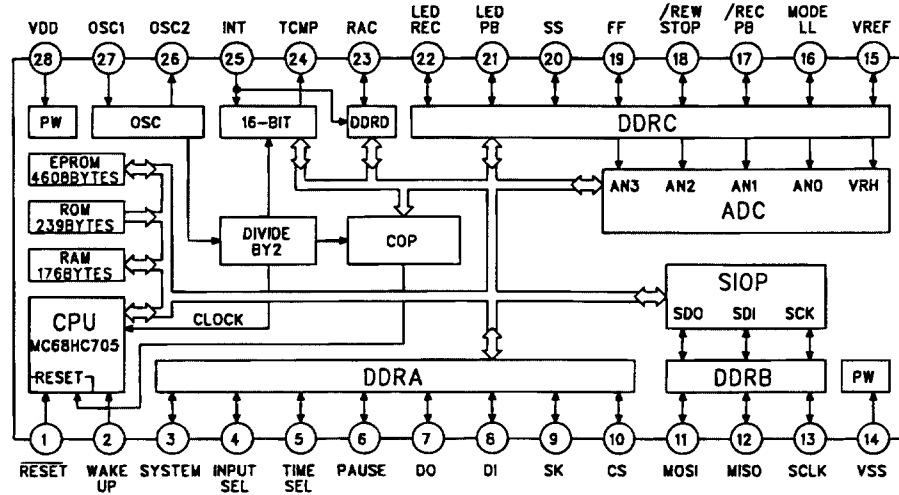
IC, AK93C45AF



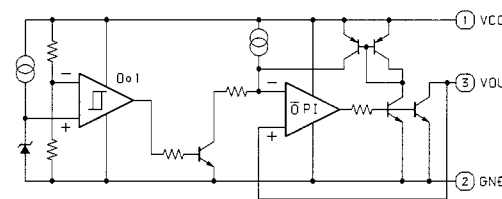
IC, SB2020P



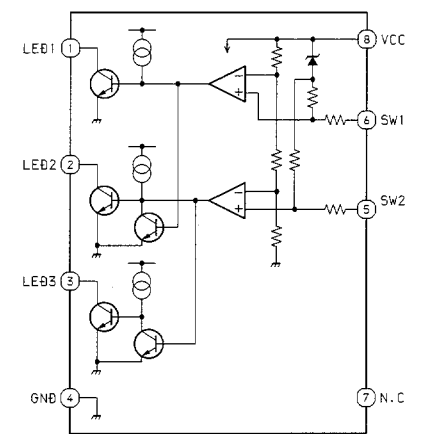
IC, MC68HC705P6CDW



IC, PST600JMT



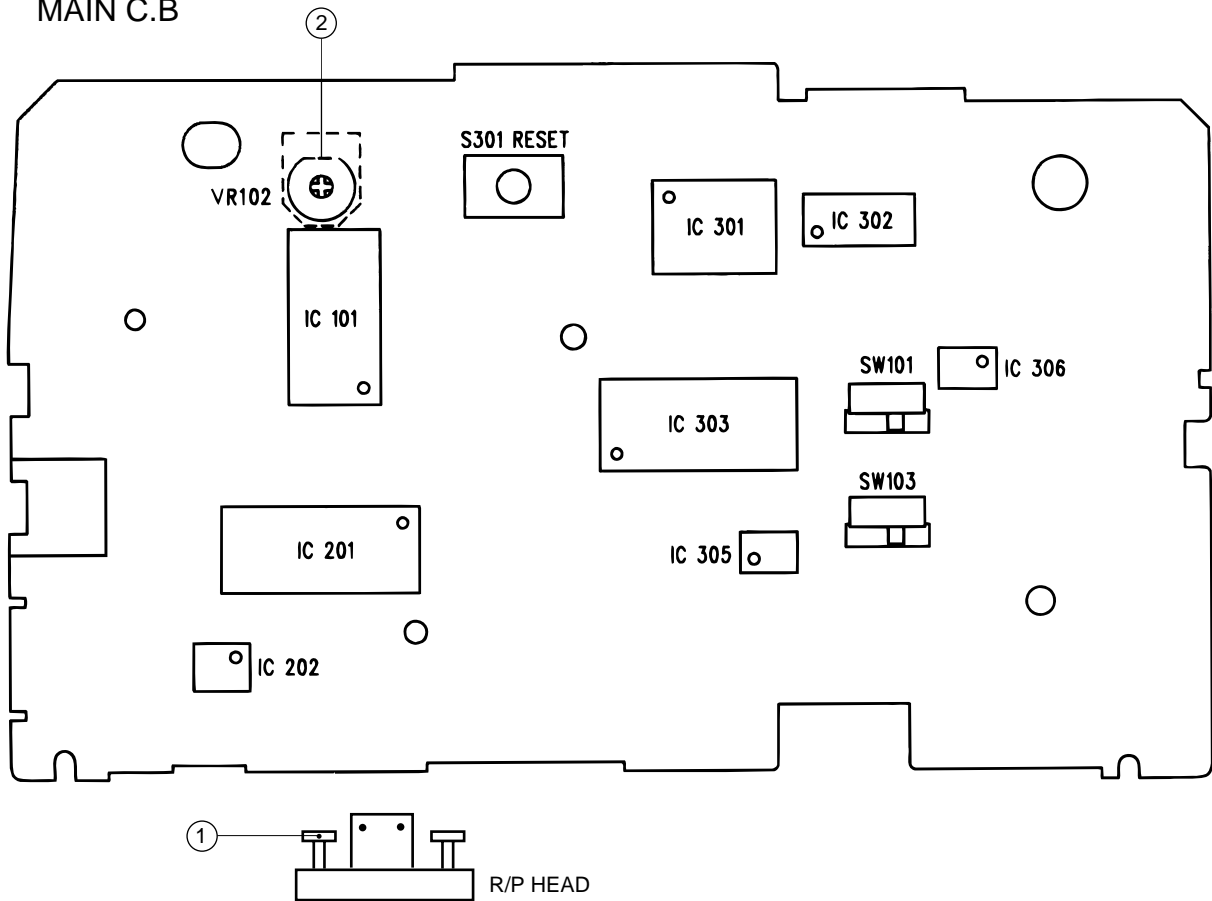
IC, MM1206XFF



BATTERY REMAIN VOLUME	2.50V	2.25V
LEB1	L	H
LEB2	H	L
LEB3	H	L

ELECTRICAL ADJUSTMENT

MAIN C.B



PRACTICAL SERVICE FIGURE

1. Azimuth Adjustment

- Settings:
- Test tape: TTA-330
 - Test point: EARPHONE JACK (J102)
 - Adjustment location: Azimuth adjustment screw
 - PAUSE: OFF
 - VOLUME: Maximum.
 - PLAYBACK SPEED: Normal
(Speed volume center)

Method: Playback the test tape, and adjust so that the output (8 kHz) becomes maximum.

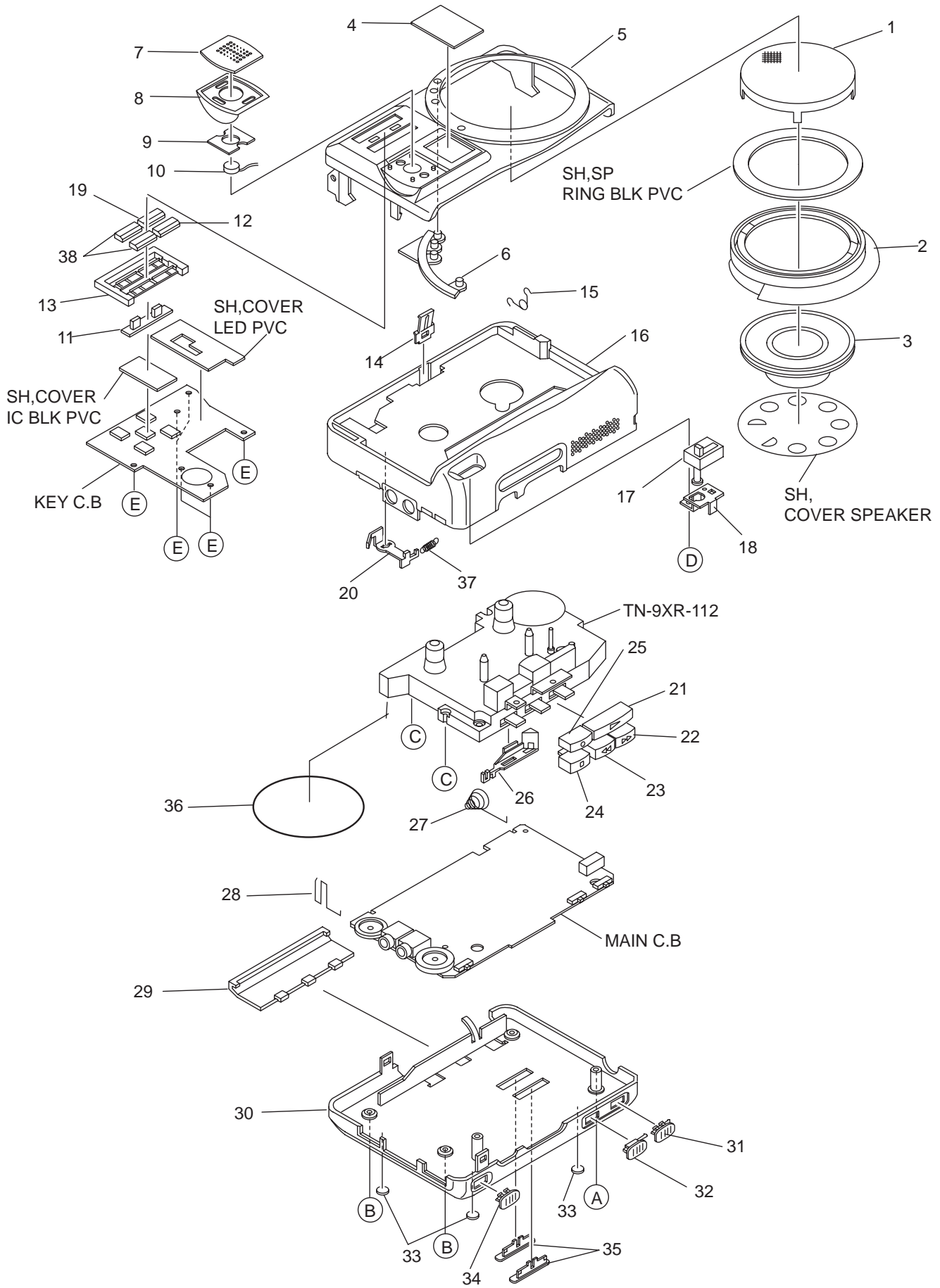
2. Tape Speed Adjustment

- Settings:
- Test tape: TTA-100 (TAPE CENTER)
 - Test point: EARPHONE JACK (J102)
 - Adjustment location: VR102
 - PAUSE: OFF
 - VOLUME: Maximum
 - PLAYBACK SPEED: Normal
(Speed volume center)

Method: Playback the test tape, and adjust for 3000 Hz ± 10 Hz

Tape speed:	3000 Hz \pm 60 Hz
Wow & flutter:	Less than 0.55%
Take-up torque:	20 ~ 50 g-cm (FWD)
F.F torque:	More than 55 g-cm
REW torque:	More than 55 g-cm
S/N ratio:	More than 45 dB (PB)
(Vol: Max - 10 dB)	More than 25 dB (R/PB)
Distortion:	Less than 3.0% (PB)
(Vol: Max - 10 dB)	Less than 5.0% (R/PB)
Noise level:	Less than 5.0 mV (PB)
(Vol: Max)	Less than 16 mV (R/PB)
Erasing ratio:	More than 28 dB (1kHz, 50dB)
Test tape	TTA-100
	TTA-330

MECHANICAL EXPLODED VIEW 1/1



MECHANICAL MAIN PARTS LIST 1/1

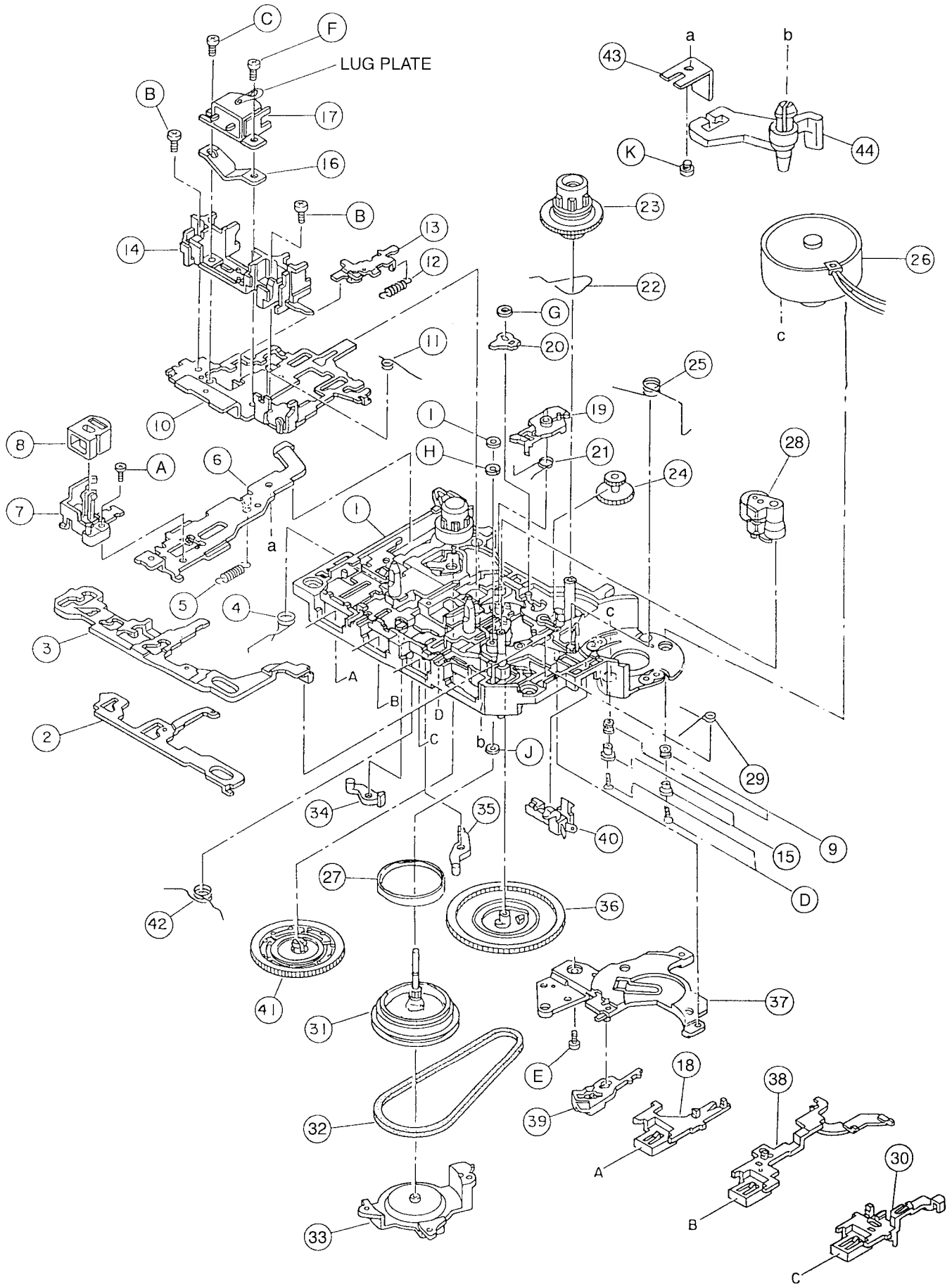
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REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8Z-HT5-004-010		GRILLE,SPEAKER	26	8Z-HT7-203-010		LEVER,PAUSE
2	8Z-HT5-003-010		RING,SPEAKER	27	8Z-HT4-201-010		BAT-CONTACT, (-)
3	87-A91-158-110		SPKR,DIA 50 4OHM 1.0W K050NA50	28	8Z-HT7-205-010		BAT-CONTACT, (+)
4	8Z-HT5-005-010		WINDOW,CASS	29	8Z-HT7-007-010		LID,BATT
5	8Z-HT5-001-010		LID CASS	30	8Z-HT5-002-010		CABI,REAR
6	8Z-HT5-010-010		LENS,BATT/LL INDI	31	8Z-HT5-012-010		KNOB,SL LL 45/10
7	8Z-HT5-007-010		GRILLE,MIC	32	8Z-HT5-011-010		KNOB,SL LL ON/OFF
8	8Z-HT5-006-010		PANEL,MIC	33	8Z-HT7-012-010		FOOT,RUBBER
9	8Z-HT5-201-010		HLDL,MIC	34	8Z-HT7-008-010		KNOB,SL PAUSE
10	82-TP3-609-010		ECM	35	8Z-HT5-013-010		KNOB,SL NFR/V
11	8Z-HT5-009-010		LENS,LL INDI	36	87-HT8-210-010		BELT,COUNTER
12	8Z-HT5-020-010		CAP, LL BTN REC	37	87-HT8-209-010		SPR-E,REC SAFETY
13	8Z-HT5-202-010		BASE,LL BTN	38	8Z-HT5-021-010		CAP, LL BTN PLAY
14	87-HT8-203-010		SPR-P,CASS	A	87-HT8-211-010		VT2+2-18 S-SCREW BLK
15	87-HT8-208-010		SPR-T,LID CASS	B	87-067-769-010		VT2+1.7-8(3) BLK
16	8Z-HT5-014-010		FRAME CENTER	C	87-067-271-010		SCREW VFT2+1.7-4
17	87-040-196-010		COUNTER	D	87-354-529-310		VT2+1.7-4
18	87-HT8-202-010		HLDL,COUNTER	E	87-351-508-310		VT2+1.4-3.5 BLK
19	8Z-HT5-022-010		CAP,LL BTN REC/PLAY				
20	87-HT8-205-010		LEVER,REC SAFETY				
21	8Z-HT6-010-010		BTN,PLAY				
22	8Z-HT6-012-010		BTN,FF				
23	8Z-HT6-013-010		BTN,REW				
24	8Z-HT6-014-010		BTN,STOP				
25	8Z-HT6-011-010		BTN,REC				

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		

TAPE MECHANISM EXPLODED VIEW 1/1



TAPE MECHANISM PARTS LIST 1/1

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REF. NO	PART NO.	KANRI NO.	DESCRIPTION	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	S1-909-013-040		CHASSIS ASSY	31	S1-909-053-040		FLYWHEEL ASSY
2	S1-909-020-190		FR PLATE	32	S1-909-080-100		MAIN BELT
3	S1-909-020-090		LOCK PLATE	33	S1-909-050-100		FL BRACKET
4	S1-909-020-140		STOP SPRING	34	S1-909-020-150		R/C LEVER(R)
5	S1-909-120-030		REC LEVER SPRING	35	S1-909-020-160		R/C LEVER(F)
6	S1-909-120-070		REC LEVER	36	S1-909-060-120		CAM GEAR
7	S1-909-120-020		MG GUIDE	37	S1-909-020-170		R/C BRACKET
8	S6-207-100-020		HEAD E TC-230AN(SL)	38	S1-909-020-110		RWD LEVER
9	S1-852-140-020		M LUBBER	39	S1-909-020-180		FF STOPPER
10	S1-909-030-050		HEAD PANEL	40	S6-401-011-630		LEAF SW MSW-1541TA
11	S1-909-040-020		P/R SPRING	41	S1-909-077-010		RWD GEAR
12	S1-909-030-080		R/C SPRING	42	S1-909-020-130		FR SPRING
13	S1-909-030-070		R/C PLATE	43	S1-909-120-090		REC SPRING PLATE
14	S1-909-030-060		TAPE GUIDE	44	S1-909-120-100		REC SW LEVER
15	S1-852-140-030		M COLLOR	A	S9-C01-174-030		CAMERA 1.7-4
16	S1-944-030-020		HEAD SPRING PLATE	B	S9-C01-173-530		CAMERA 1.7-3.5
17	S6-202-030-410		RP HEAD MS15R-BA2N1	C	S9-P14-203-310		+/- SCREW M2-3.3
18	S1-909-020-100		STOP LEVER	D	S9-C18-300-100		CAMERA 1.7-3
19	S1-909-110-040		AUTO LEVER	E	S9-P08-173-410		PST 1.7-3.4
20	S1-909-110-020		A PUSH ARM	F	S9-P14-206-320		+/- SCREW M2-3.6
21	S1-909-110-050		M CONTROL SPRING	G	S9-W02-300-100		P WASHER CUT 1.2-3.8-0.3
22	S1-909-060-150		SENSOR SPRING C	H	S9-W08-350-200		LUMILER WASHER CUT 0.98-3-0.3
23	S1-909-063-030		T REEL ASSY	I	S9-W05-200-600		HL WASHER 1.16-3-0.2
24	S1-909-060-130		TAKE UP GEAR	J	S9-W05-200-100		HL WASHER 1.55-3-0.13
25	S1-909-030-090		HP SPRING	K	S9-C16-171-410		CAMERA 1.7-1.4
26	S1-909-083-050		MOTOR ASSY				
27	S1-909-050-130		BRAKE BELT				
28	S1-909-043-020		PINCH ROLLER ASSY				
29	S1-909-020-200		FR PLATE SPRING				
30	S1-909-020-120		FF LEVER				



サービス技術ニュース	
番号	連絡内容
G- -	
G- -	
G- -	

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 110-8710, JAPAN TEL:03 (3827) 3111