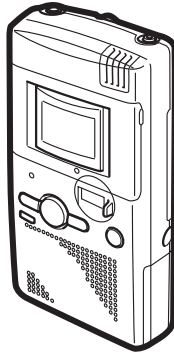




TP-M725 Y(S)

TP-M525 YH(S),Y(S),YL(S)



SERVICE MANUAL

MICROCASSETTE RECORDER

BASIC TAPE MECHANISM : ML-810

This Service Manual is the "Revision Publishing" and replaces "Simple Manual"

TP-M725 Y<S>(S/M Code No.09-003-343-4T1)

TP-M525 YH<S>,Y<S>,YL<S> (S/M Code No.09-003-343-5T1).

aiwa

S/M Code No. 09-003-343-4R1

REVISION
DATA

SPECIFICATIONS

Track system: Micro cassette, 2 tracks 1 channel, monaural
Usable tapes: **MICROCASSETTE™** (Normal position type)
Frequency response: 250 - 5,000 Hz (2.4 cm/sec) EIAJ
Microphone: Electret condenser microphone (monaural)
Maximum output: 150 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 36 mm, 8 ohms
Recording system: DC bias
Erasing system: DC erasure
Recording speed: 2.4 cm/sec or 1.2 cm/sec switchable
Power sources: DC 3 V using two (size AA) dry cell batteries
 AC house current using the AC adaptor
 Aiwa AC-300/302 [Y(S)]
 Aiwa AC-620/302 [YH(S), YL(S)]

Battery life:	Battery	Battry life	
		EIAJ Recording	EIAJ 10 mW
	Manganese(R6P) batteries	Approx. 6 hrs.	Approx. 5 hrs.
	Alkaline(LR6) batteries	Approx. 17 hrs.	Approx. 15 hrs.

Dimensions: 62 (W) x 119(H) x 29 (D) mm
 (2 1/2 x 4 3/4 x 1 3/16 in)
Weight: Approx. 132 g (4.6 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	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-HX4-903-010	IB, YH (ECK) C<5YHS>		3	87-048-286-010	HP-255 NS<7YSC>	
1	8A-HX4-905-010	IB, Y (EGF) C<5YS>		4	84-TM1-951-010	CARRYING CASE<5YHS, 5YLS>	
1	8A-HX4-906-010	IB, Y (SID) C<5YS>		4	84-TM1-951-010	CARRYING CASE<7YSC>	
1	8A-HX4-907-010	IB, Y (PHNCZ) C<5YS>		5	S2-301-020-100	RC, 4TM1<7YSC>	
1	8A-HX4-904-010	IB, YL (3L) C<5YLS>					
1	8A-HX3-905-010	IB, Y (EGF) C<7YSC>					
1	8A-HX3-906-010	IB, Y (SID) C<7YSC>					
1	8A-HX3-907-010	IB, Y (PHNCZ) C<7YSC>					
2	87-PD3-050-010	STRAP, HAND<EXCEPT 7YSC>					
2	87-PD3-050-010	STRAP, HAND<7YSC>					

ELECTRICAL MAIN PARTS 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	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
IC				C306	87-010-197-080		CAP, CHIP 0.01 DM
	84-TM1-613-080	IC,AN7085NS		C307	87-010-197-080		CAP, CHIP 0.01 DM
	87-A20-367-080	IC,TB2003F-012		C308	87-010-746-080		CAP, TANTAL 10-4
	84-TM1-615-010	C-IC,AN6656S		C401	87-010-794-080		CHIP CAPACITOR TN 0.1-20 (A2)
				C402	87-010-196-080		CHIP CAPACITOR,0.1-25
TRANSISTOR				C403	87-012-141-080		CHIP-CAPACITOR,0.22-16F
	87-026-213-080	CHIP-TR,DTC114YK<5YHS>		C503	87-010-746-080		CAP, TANTAL 10-4
	89-342-132-080	TR,2SC4213B		C504	87-010-503-040		CAP,E 220-4 GAS
	87-026-239-080	TR,DTC114TK (0.2W)		C505	87-010-503-040		CAP,E 220-4 GAS
	89-327-125-080	CHIP TR,2SC2712GR		C506	87-010-194-080		CAP, CHIP 0.047
	89-333-266-080	CHIP TR,2SC3326B					
	87-026-504-080	SPEED SENSOR NJL5164KQ2-F1		C811	87-016-576-080		CAP,E 330-16 SSL
	87-026-230-080	CHIP-TR,DTA114YK		J1	84-TM1-640-010		JACK,3.5 HSJ1494-02
	87-A30-179-080	FET,2SJ107GR		J2	84-TM1-630-010		JACK,3.5 HSJ1493-05
	89-112-134-080	TR,2SA1213Y (1W)		J3	87-009-022-010		JACK DC
	89-341-165-080	TR,2SC4116GR		LED401	87-A40-573-080		C-LED,LT1ED67A GRN/RED
	87-026-411-080	TR,RN1304		R301	87-022-656-080		C-RES,K43G 0.68
	87-026-418-080	TR,RN1311		R311	84-TM1-632-080		C-RES,2.2-1/8W F
	89-111-625-080	TR,2SA1162 (0.15W)		R312	84-TM1-633-080		C-RES,5.6-1/8W F
	89-113-625-080	TR,2SA1362GR(120MHZ,0.		SW101	87-A90-330-080		C-SW,SL 1-1-2 SSSS81<5YHS>
DIODE				SW151	87-A90-330-080		C-SW,SL 1-1-2 SSSS81
	87-020-125-080	CHIP-DIODE 1SS181		SW201	87-A90-703-080		C-SW,SL 1-1-3 SSSS813-B-2B
	87-020-027-080	DIODE,1SS184		SW202	87-A90-330-080		C-SW,SL 1-1-2 SSSS81<EXCEPT 5YHS>
	87-001-142-080	DIODE,1SS294 (100MA)		SW202	87-A90-703-080		C-SW,SL 1-1-3 SSSS813-B-2B<5YHS>
	87-020-339-080	CHIP DIODE,1SS226		SW203	87-A90-788-080		C-SW,MICRO SPPB64
	87-001-167-080	CHIP-DIODE 1SS302		SW204	87-036-252-010		SW,PUSH SPPB 51
	87-001-165-080	CHIP-DIODE 1SS300		SW301	87-A90-330-080		C-SW,SL 1-1-2 SSSS81
	87-001-166-080	CHIP-DIODE 1SS301		SW601	84-TM1-638-010		SW,SLIDE 1-1-3 (NC)
MAIN C.B				TH301	87-A90-855-080		C-THMS,SC20-3K102K
C100	87-010-194-080	CAP, CHIP 0.047	CONTROL C.B	VR101	87-A91-023-010		VR,RTRY 10K-C H
C101	87-010-503-040	CAP,E 220-4 GAS	SW205	87-A90-665-180		C-SW,TACT LS7A2M	
C102	87-010-794-080	CHIP CAPACITOR TN 0.1-20 (A2)	SW206	87-A90-665-180		C-SW,TACT LS7A2M	
C103	87-010-794-080	CHIP CAPACITOR TN 0.1-20 (A2)<5YHS>	SW207	87-A90-665-180		C-SW,TACT LS7A2M	
C104	87-010-794-080	CHIP CAPACITOR TN 0.1-20 (A2)	SW208	87-A90-665-180		C-SW,TACT LS7A2M	
			SW209	87-A90-665-180		C-SW,TACT LS7A2M	
C105	87-010-187-080	CAP CHIP S5600P					
C107	87-010-198-080	CAP, CHIP 0.022					
C108	87-010-802-080	C-CAP,TN2.2-4 (A2)					
C109	87-A10-952-080	C-CAP,TN 22-4 M A MCM					
C110	87-010-746-080	CAP, TANTAL 10-4					
C112	87-010-587-040	E,CAP 100-2					
C113	87-010-503-040	CAP,E 220-4 GAS					
C114	87-010-746-080	CAP, TANTAL 10-4					
C115	87-010-193-080	CHIP CAPACITOR,0.033					
C116	87-012-141-080	CHIP-CAPACITOR,0.22-16F					
C117	87-010-198-080	CAP, CHIP 0.022					
C118	87-012-141-080	CHIP-CAPACITOR,0.22-16F					
C119	87-016-503-080	C-CAP,TN4.7-4 A2					
C120	87-016-503-080	C-CAP,TN4.7-4 A2					
C121	87-012-141-080	CHIP-CAPACITOR,0.22-16F					
C122	87-010-500-040	CAPE 33-4					
C124	87-010-505-080	CA, CHIP TANTALUM 1-16<5YHS>					
C128	87-010-746-080	CAP, TANTAL 10-4					
C130	87-010-182-080	CAP, CHIP 0.0022					
C151	87-010-502-040	CAP ELECT GAS 100/4					
C153	87-010-196-080	CHIP CAPACITOR,0.1-25					
C201	87-010-805-080	CAP, S 1-16					
C202	84-TM1-622-080	C-CAP,S 4700P-16 J					
C203	87-015-923-080	C-CAP,TN 0.22-35					
C204	87-010-196-080	CHIP CAPACITOR,0.1-25					
C301	87-010-505-080	CA, CHIP TANTALUM 1-16					
C302	87-016-503-080	C-CAP,TN4.7-4 A2					
C303	87-016-503-080	C-CAP,TN4.7-4 A2					
C304	87-010-794-080	CHIP CAPACITOR TN 0.1-20 (A2)					
C305	87-010-505-080	CAP, CHIP TANTALUM 1-16					

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



抵抗部品コード
Resistor Code

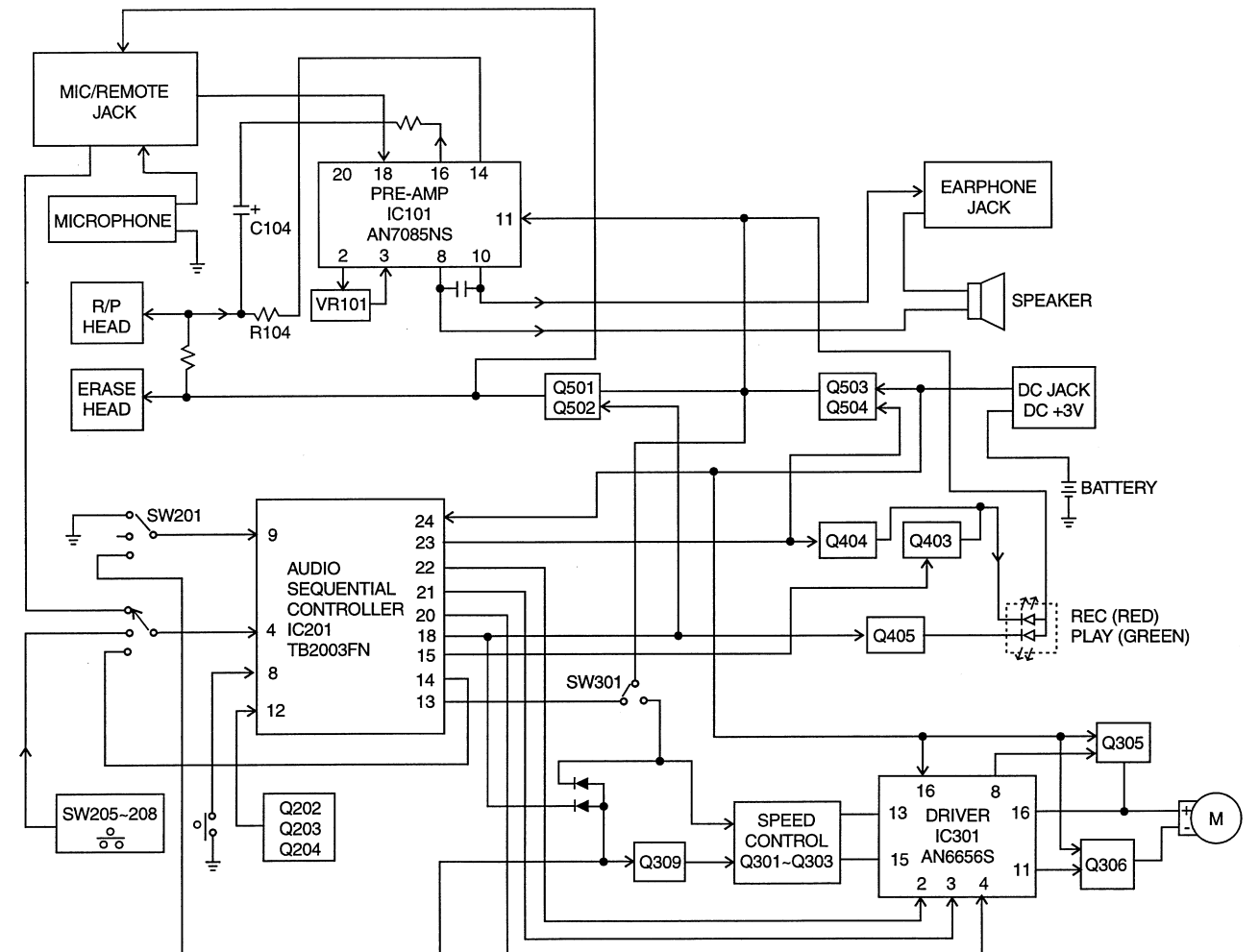
桁表示
Figure

抵抗値
Value of resistor

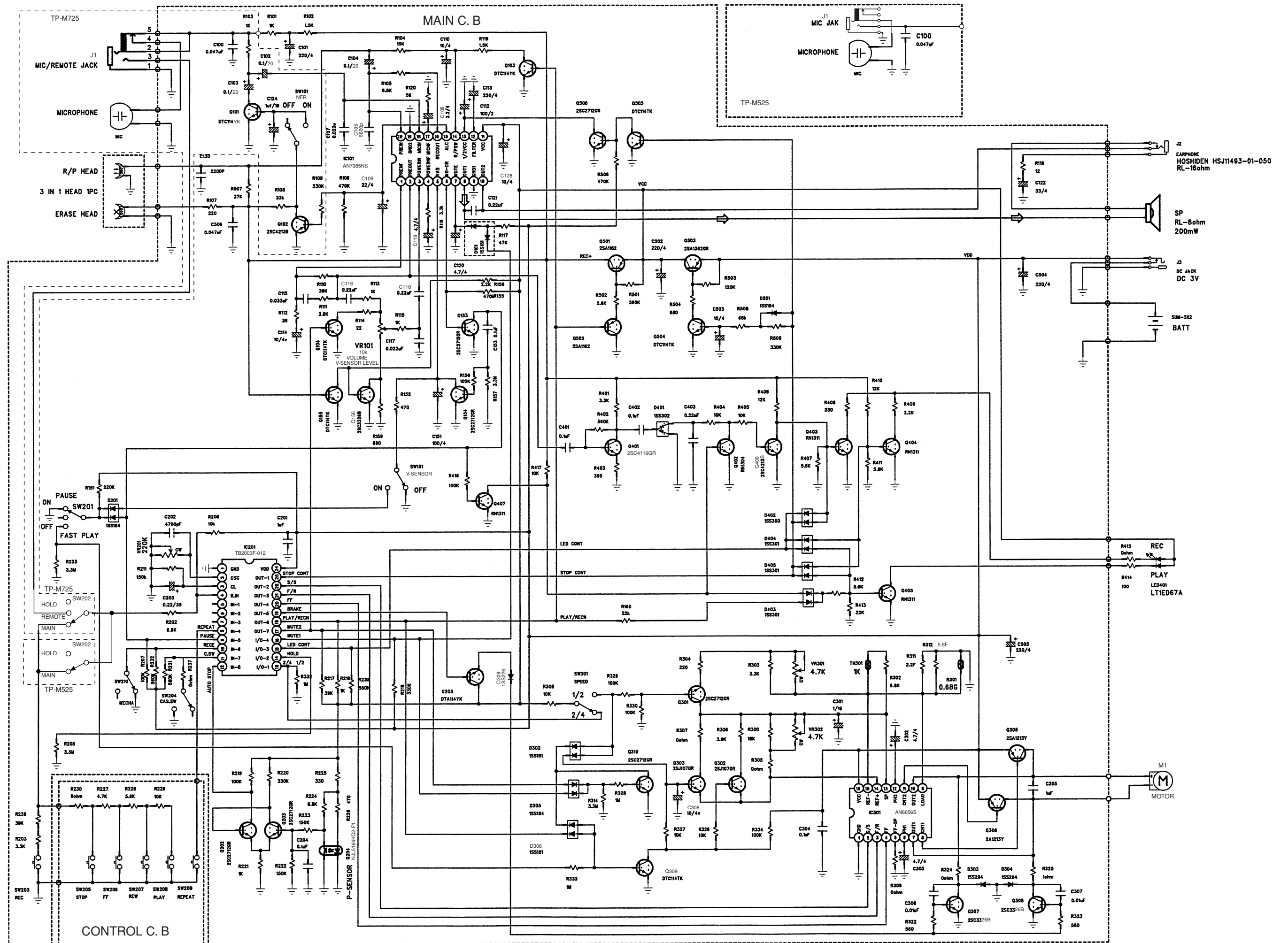
チップ抵抗 Chip resistor

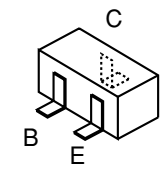
容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法/Dimensions (mm)			抵抗コード : A Resistor Code : A	
				外形/Form	L	W		t
1/16W	1005	±5%	CJ		1.0	0.5	0.35	104
1/16W	1608	±5%	CJ		1.6	0.8	0.45	108
1/10W	2125	±5%	CJ		2	1.25	0.45	118
1/8W	3216	±5%	CJ		3.2	1.6	0.55	128

BLOCK DIAGRAM

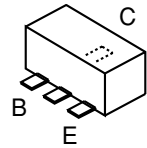


SCHEMATIC DIAGRAM

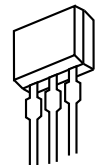




- 2SA1162
- 2SA1362
- 2SC2712
- 2SC3326
- 2SC4116
- 2SC4213
- DTA114YK
- DTC114YK
- DTC114TK
- RN1304
- RN1311

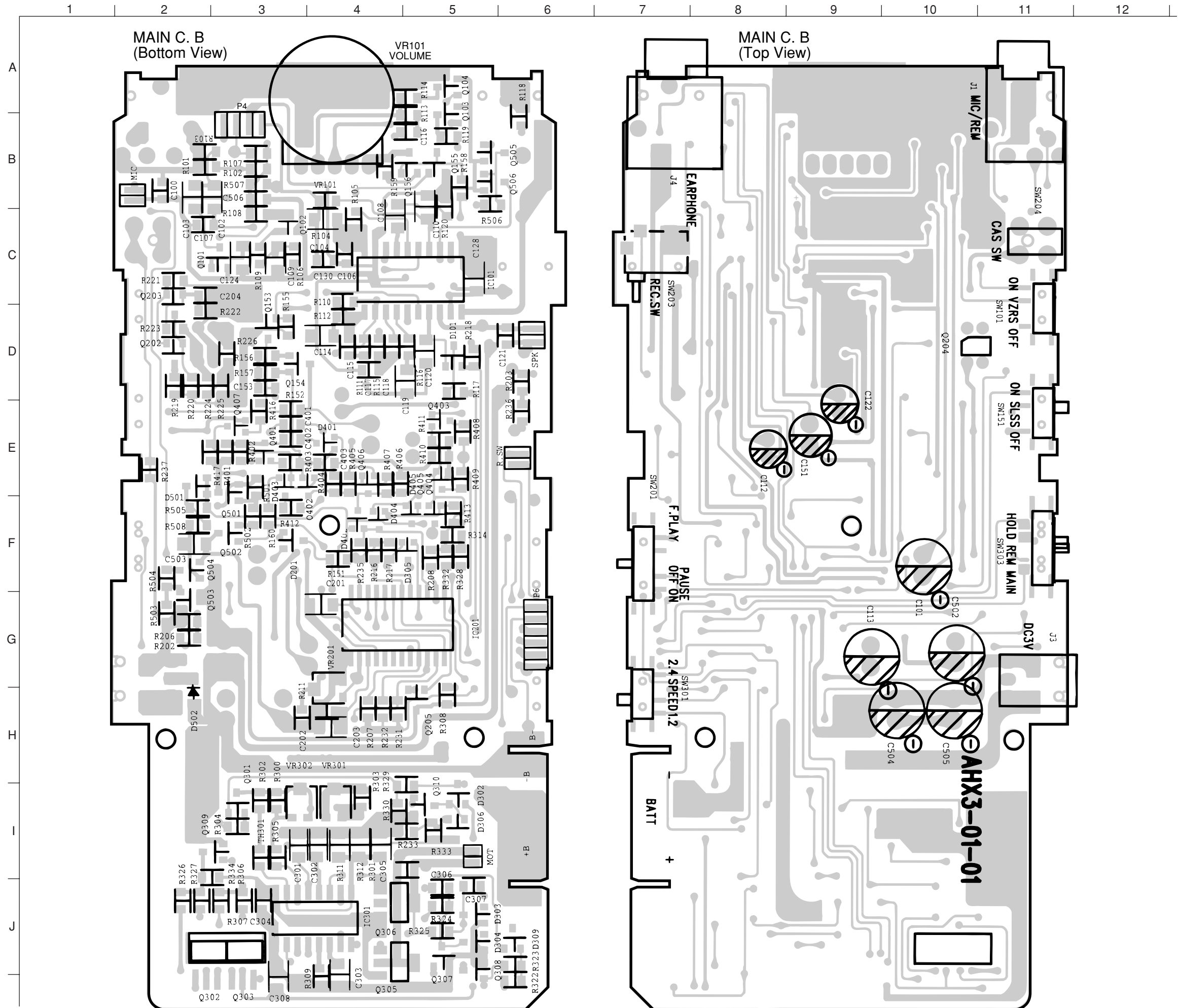


- 2SA1213

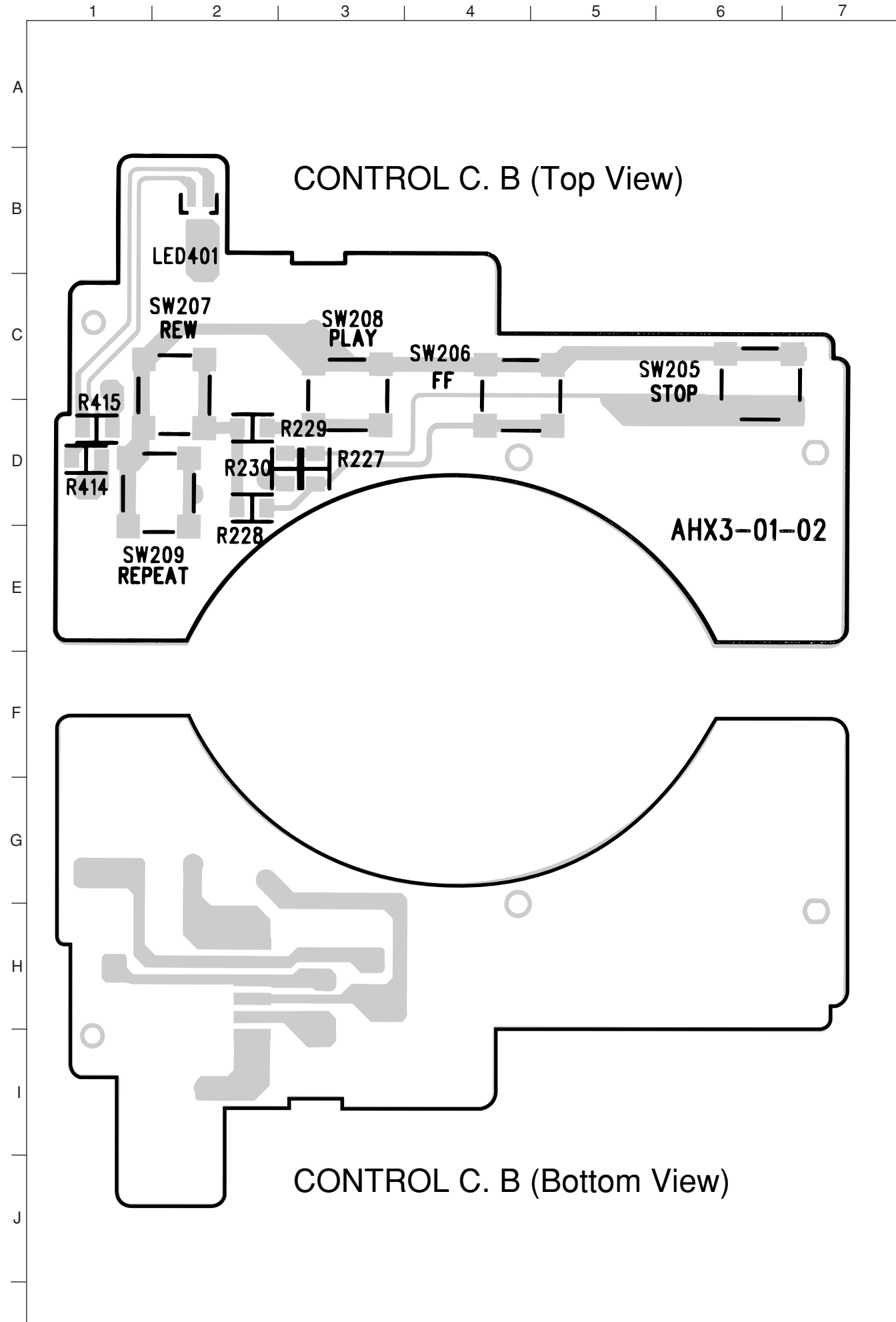


DSG

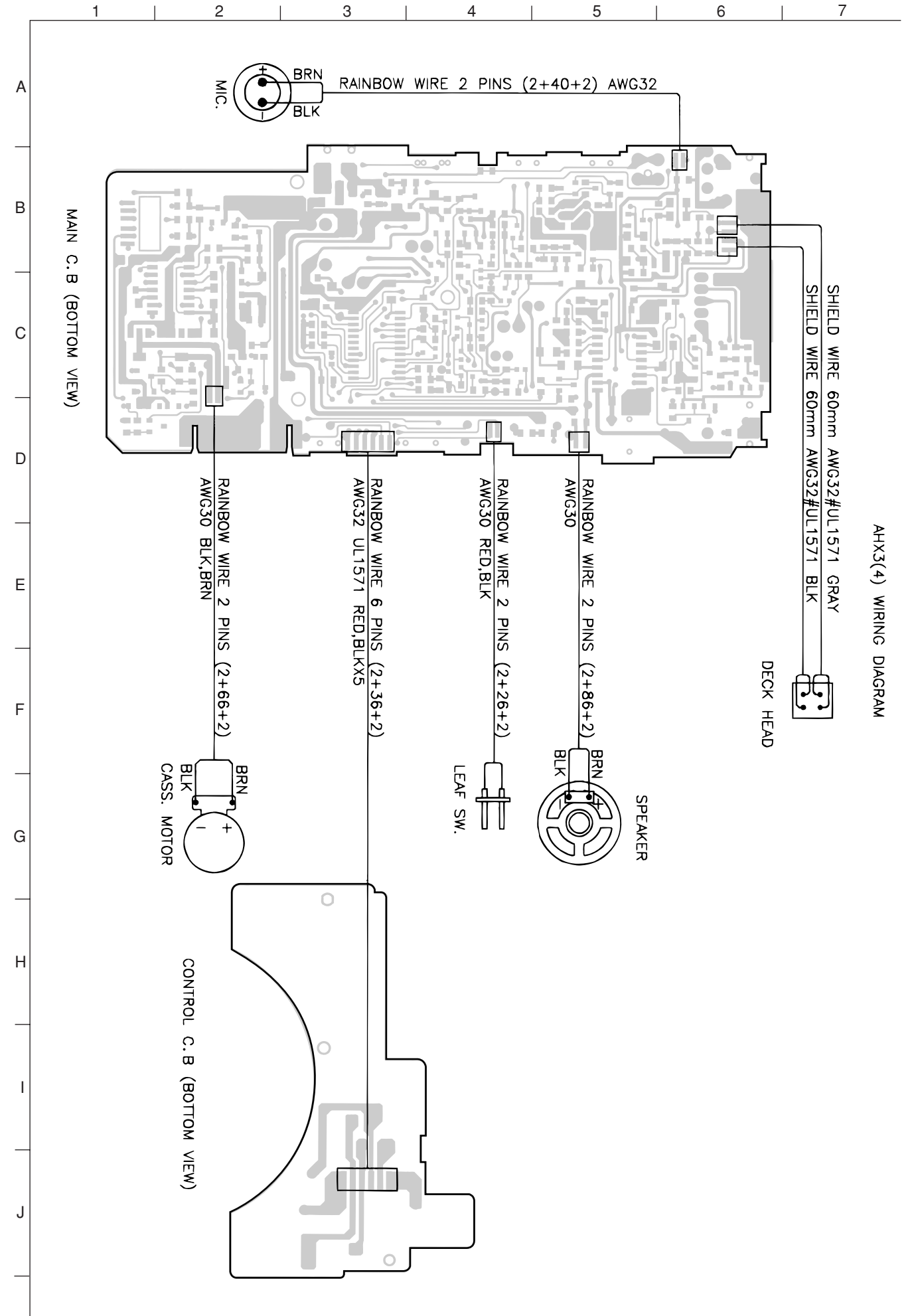
- 2SJ107



CIRCUIT BOARD DIAGRAM-2 (CONTROL C.B)



WIRING



VOLTAGE CHART

THE READING OF ICS AND TRANSISTORS ARE DC VOLTAGE

UNIT:V

TUNER SECTION

TEST CONDITION: PLAY AND RECORDED

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
PLAY	1.43	1.45	1.37	1.39	0.01	0	0.51	1.18	0	1.19
REC.	1.49	1.49	1.42	1.43	0.01	0	0.49	1.21	0	1.21
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
PLAY	2.95	2.74	1.47	0.21	0	1.36	1.44	1.47	0	1.37
REC.	2.94	2.77	1.49	1.88	0.40	1.50	1.49	1.49	0	1.48

IC201 TB2003FM

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
PLAY	0	1.43	2.15	2.95	2.93	2.93	2.93	2.93	1.82	0	0	0.95
REC.	0	1.44	2.15	2.95	2.93	2.94	2.94	2.94	1.85	0	0	0.98
PIN'S NUMBER	13	14	15	16	17	18	19	20	21	22	23	24
PLAY	2.91	0.25	2.78	0	0	2.68	2.38	0	0	2.31	2.30	2.95
REC.	2.91	0.32	2.78	0	0	0.03	2.38	0	0	2.31	2.30	2.96

IC301 AN6657

PIN'S NUMBER	1	2	3	4	5	6	7	8
SPEED 2.4	0	2.30	0	0	0	0	1.46	2.49
SPEED 1.2	0	2.31	0	0	0	0	0.95	2.49
PIN'S NUMBER	9	10	11	12	13	14	15	16
SPEED 2.4	2.31	0.06	2.31	0.64	0.13	0.15	0.03	2.96
SPEED 1.2	2.32	0.06	2.30	0.63	0.08	0.15	0.03	2.96

TRANSISTOR	Q501(2SA1162GR)			Q502(2SA1162GR)			Q503(2SA1362GR)			Q504(DTC114TK)		
	E	C	B	E	C	B	E	C	B	E	C	B
PLAY	2.21	2.95	2.77	2.76	0	2.68	2.96	2.95	2.21	0	0.12	0.83
REC.	2.93	2.88	2.22	0.63	0	0.03	2.95	2.93	2.20	0	0.12	0.82

TRANSISTOR	Q135(DTC114TK)			Q136(DTC114TK)			Q403(RN1311)			Q404(RN1311)		
	E	C	B	E	C	B	E	C	B	E	C	B
PLAY	0	0.74	0	0	0	0.74	0	2.96	0	0	2.96	0
REC.	0	0.01	2.89	0	0	0.01	0	0.15	0.91	0	0.06	0.92

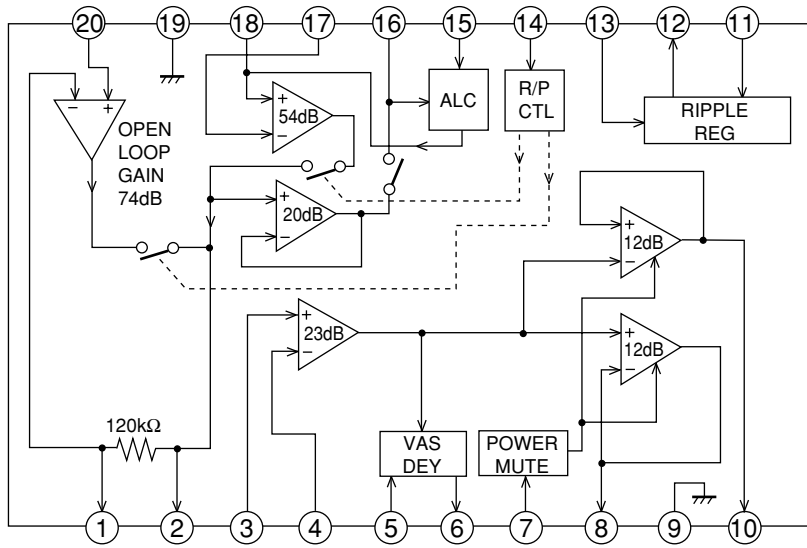
TRANSISTOR	Q405(RN1311)		
	E	C	B
PLAY	0	0.99	0.82
REC.	0	1.53	0

TRANSISTOR	Q305(2SA1213Y)			Q306(2SA1213Y)			Q302(2SJ107GR)			Q303(2SJ107GR)		
	E	C	B	E	C	B	E	C	B	E	C	B
SPEED 1.2	2.96	0.06	2.89	2.96	0.95	2.32	0.08	2.93	0.15	0.08	2.93	0.13
SPEED 2.4	2.96	0.06	2.49	2.96	1.46	2.30	0.13	2.93	0.15	0.13	2.93	0.15

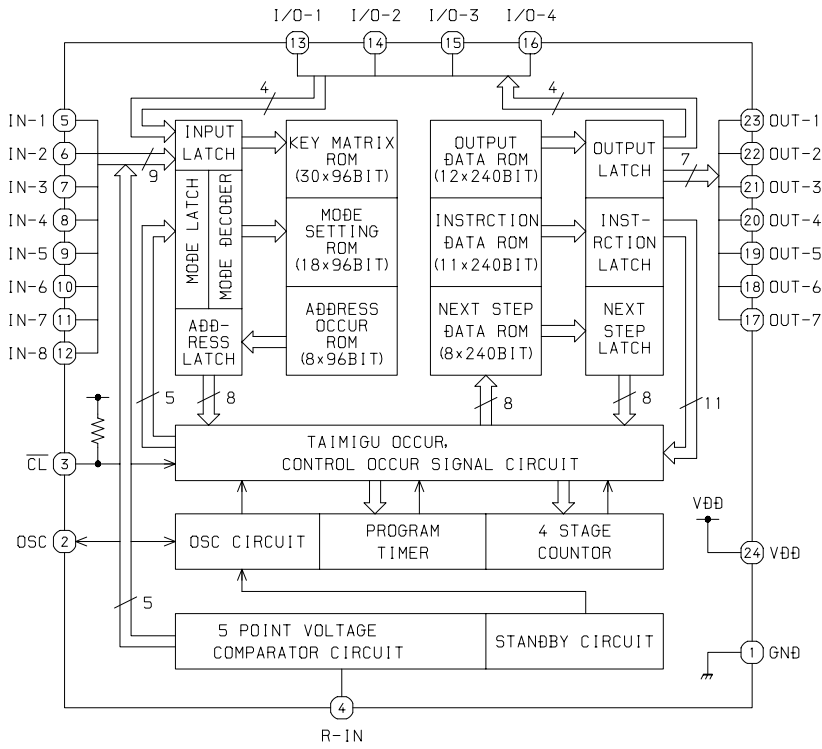
TRANSISTOR	Q301(2SC2712GR)			Q309(DTC114TK)			Q310(2SC2712GR)		
	E	C	B	E	C	B	E	C	B
SPEED 1.2	0.06	0.08	0.64	0	2.69	0	0	6.05	-0.26
SPEED 2.4	0.03	0.13	0	0	2.69	0	0	4.35	-0.20

IC BLOCK DIAGRAM

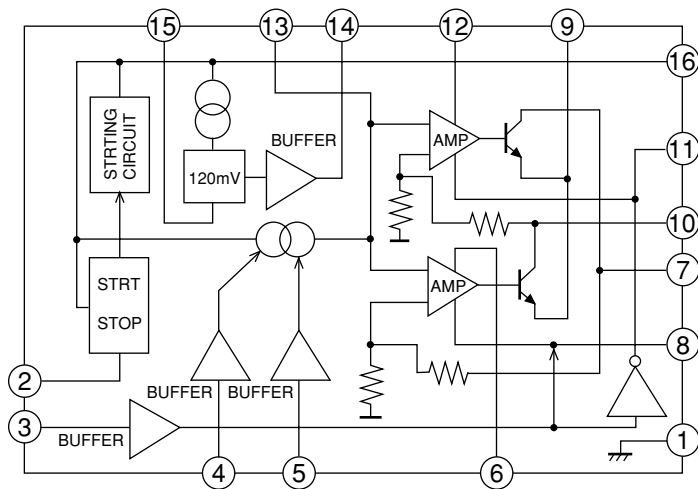
IC, AN7085NS



IC, TB2003F-012

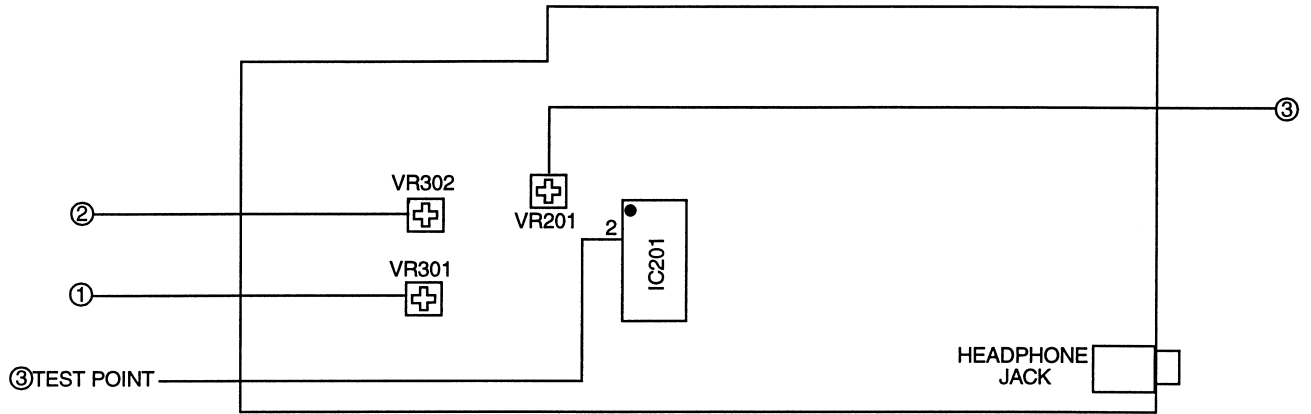


IC, AN6656S



ADJUSTMENT

MAIN CB (Bottom View)



1. Tape Speed (1.2cm/s) Adjustment

Test point: headphone jack
 Test tape: TTS-910
 Adjustment location: VR301
 VR301 ----- 3000Hz

2. Tape Speed (2.4cm/s) Adjustment

Test point: headphone jack
 Test tape: TTS-900
 Adjustment location: VR302
 VR302 ----- 3000Hz

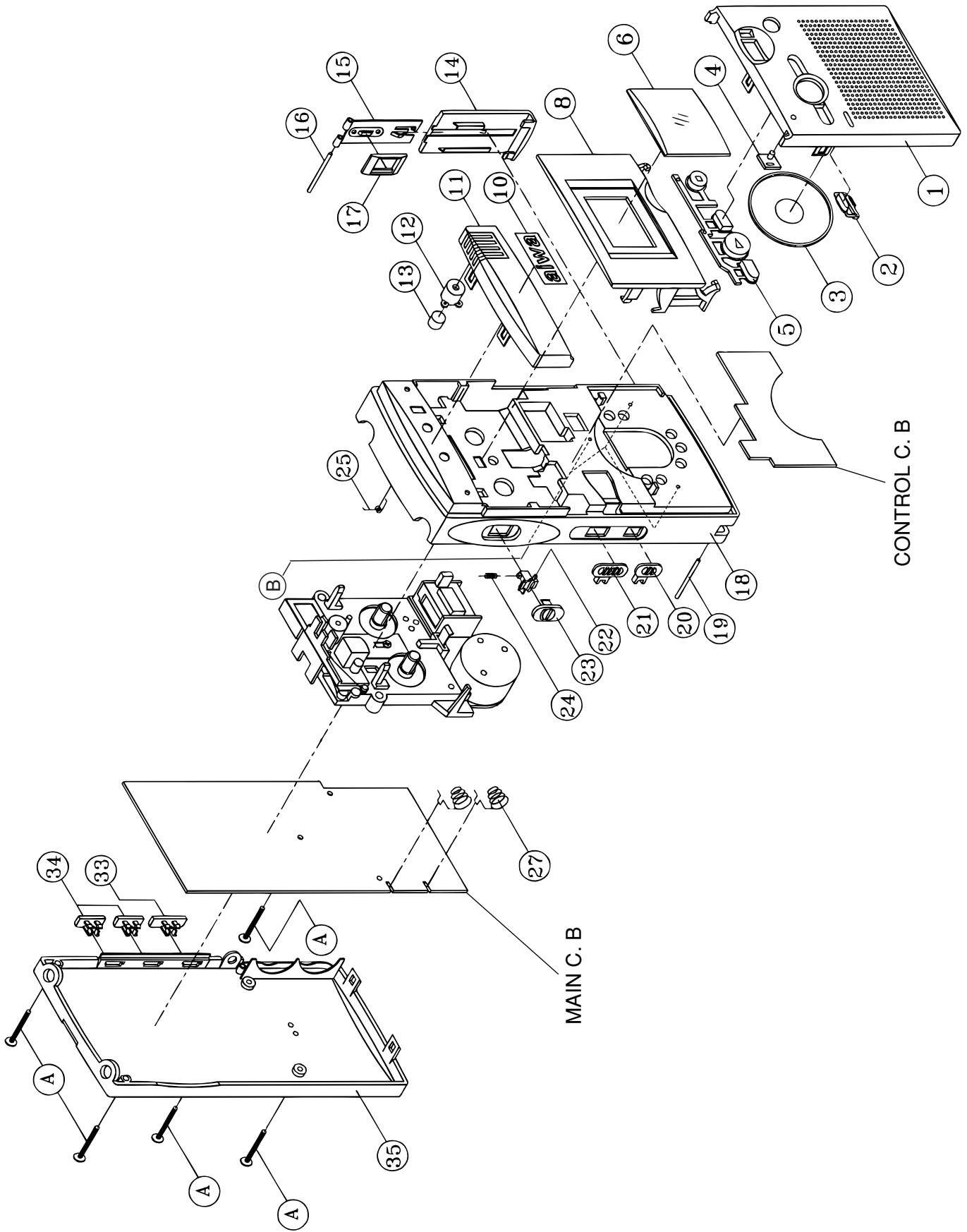
3. Clock frequency Adjustment

Test point: IC201 (TB2003F12) 2PIN
 Adjustment location: VR201
 VR201 ----- 3160Hz \pm 40Hz

PRACTICAL SERVICE FIGURE

Tape speed:	3000 Hz \pm 90 Hz
Wow & flutter:	Less than 0.85% (RMS) (2.4cm)
	Less than 1.5% (RMS) (1.2cm)
Take-up torque:	4 ~ 12 g-cm
F.F torque:	4 ~ 15 g-cm
Rew torque:	25 ~ 60 g-cm
Back tension:	Less than 1.2 g-cm
S/N ratio:	More than 44 dB (DC. PB)
	More than 26 dB (DC. R/PB)
Noise level:	Less than 1.5 mV (DC. Vol Max. PB)
	Less than 14 mV (DC. Vol Max. R/PB)
Erasing ratio:	More than 50 dB (1 kHz)
Test tape:	TTS-900 (Wow & flutter/Tape speed – 2.4 cm)
	TTS-910 (Wow & flutter/Tape speed – 1.2 cm)
	TTS-920 (Distortion/Output)
	TTS-930 (Azimuth)
	TTS-940 (REC/PB)

MECHANICAL EXPLODED VIEW 1/1



MECHANICAL MAIN PARTS LIST 1/1

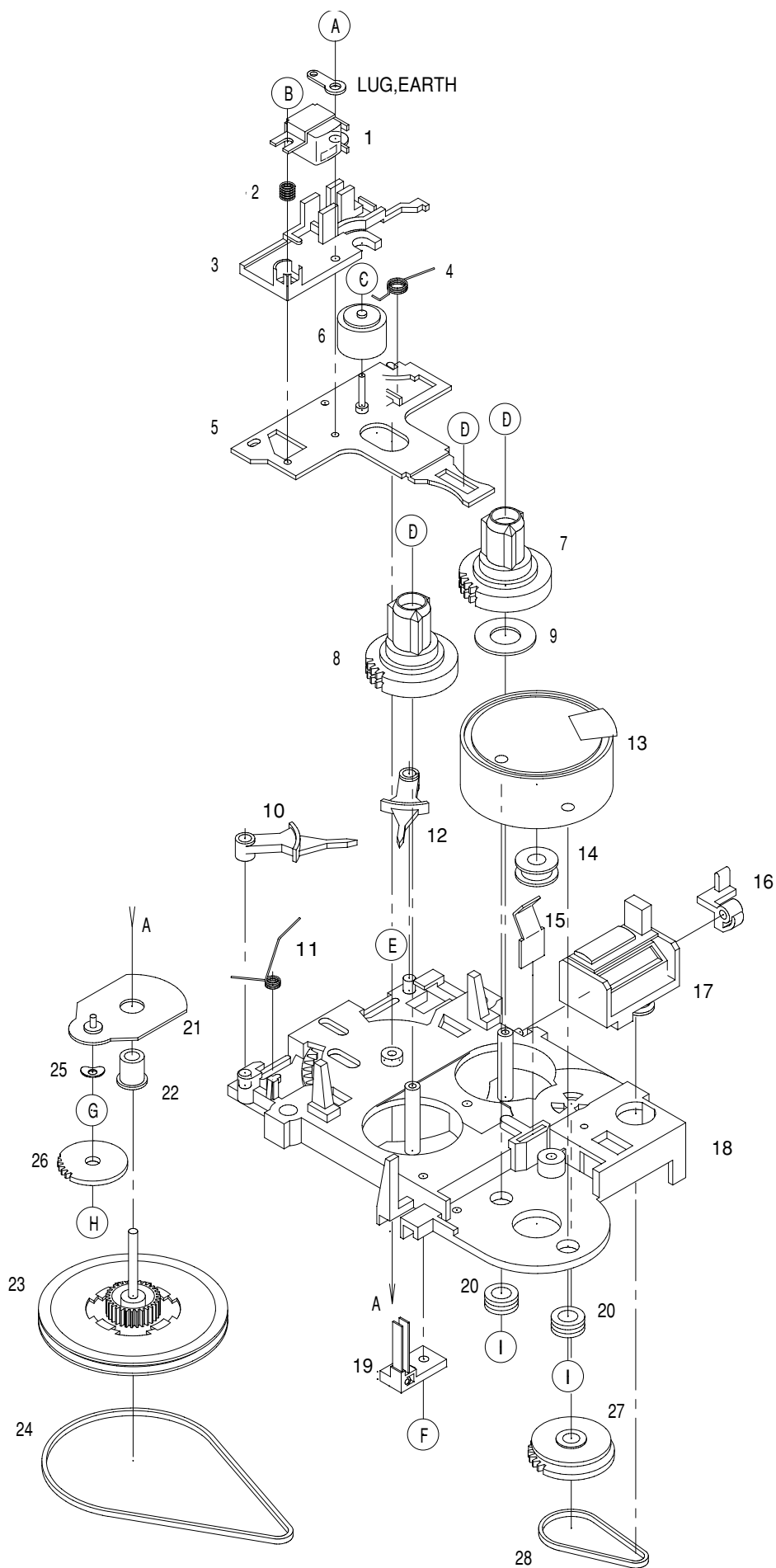
DESCRIPTIONで判断できない物は "REFERENCE NAME LIST" を参照してください。
 If can't understand for Description please kindly refer to "REFERENCE NAME LIST".

REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	8A-HX3-001-010		PANEL, SPEAKER
2	88-HX2-112-010		BTN, ONCE MORE
3	84-TM1-635-010		SP, DIA36
4	88-HX2-130-010		LENS, REC/OPE
5	8A-HX3-002-010		BTN, PLAY
6	8A-HX3-005-010		WINDOW, CASS<7YSC>
6	8A-HX4-006-010		WINDOW, CASS<EXCEPT 7YSC>
8	8A-HX3-003-010		LID, CASS
10	87-054-093-010		BADGE AIWA 22.5 MLDS<7YSC>
11	88-HX2-103-010		PANEL, MIC
12	88-HX2-201-010		HLDR, MIC
13	82-TP3-609-010		ECM
14	88-HX2-107-010		LID, BAT
15	84-TM1-201-010		BATT, HINGE
16	88-HX2-207-010		SHAFT, HINGE
17	84-TM1-218-010		GUARD, BATT
18	88-HX2-123-010		CABI, FRONT Y<7YSC>
18	8A-HX4-001-010		CABI, FRONT<EXCEPT 7YSC>
19	88-HX2-204-010		SHAFT, STRAP
20	88-HX2-115-010		KNOB, SL SPEED
21	88-HX2-116-010		KNOB, SL PAUSE
22	88-HX2-133-010		BTN, REC LOCK
23	88-HX2-132-010		KNOB, SL REC
24	84-TM1-206-010		C-SP, REC
25	88-HX2-208-010		SPR-T, CASS
27	88-HX2-205-010		BAT-CONTACT, (+-)
33	88-HX2-114-010		KNOB, SL MAIN<7YSC>
34	88-HX2-113-010		KNOB, SL VZRS/SLSS
35	88-HX2-124-010		CABI, REAR Y
A	84-TM1-217-010		SCREW PAN MOLD M2X16
B	87-067-432-010		VT1.4-5 WHITE

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

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	REF. NO	PART NO.	KANRI NO.	DESCRIPTION
1	SC-M66-180-000		HEAD,3-IN-1	21	S8-10A-020-000		GEAR PLATE ASSY
2	S7-550-680-000		AZIMUTH SP	22	S8-100-030-000		BEARING FW
3	S8-100-140-000		SPACER HEAD	23	S8-10A-090-000		FW ASSY
4	S8-100-240-000		PINCH SP	24	SV-310-000-000		BELT,MAIN
5	S8-10A-100-000		HEAD BASE ASSY	25	SP-117-000-000		SPR,FLECTION
6	S4-010-450-000		PINCH,ROLLER	26	S7-500-070-000		GEAR,FWD
7	S8-10A-050-000		REEL ASSY(T)	27	S8-100-210-000		GEAR,SECOND
8	S8-10A-060-000		REEL ASSY(S)	28	SV-320-000-000		BELT,COUNTER
9	S4-014-020-000		PLATE REFLECTING	A	S3-PW1-7X2-500		SCREW
10	S8-100-200-000		ARM REV	B	S3-PB1-7X7-000		SCREW,AZIMUTH
11	S8-100-250-000		HEAD,BASE SP	C	S1-2X3-X02-500		WASHER CUT
12	S8-100-120-000		ARM PLAY	D	S2-00B-T01-000		SCREW,HEADER
13	SB-CY3-B00-000		MOTOR	E	S1-2X2-35X-050		WASHER CUT
14	S4-301-020-000		MOTOR PULLEY	F	SB-TY2-0X4-703		SCREW
15	S8-100-180-000		CST HOLDER SP	G	S2-6X4-X01-880		WASHER
16	S8-101-430-000		CASE,LEVER	H	S2-1X4-X02-500		WASHER CUT
17	SM-MP3-800-340		COUNTER	I	S6-026-200-000		SCREW
18	S8-100-010-000		CHASSIS MOLD				
19	SM-SW1-838-0MM		SW,LEAF				
20	S0-71B-000-000		CUSHION RUBBER				

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