

# SERVICE MANUAL

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STEREO RADIO  
CASSETTE PLAYER

BASIC TAPE MECHANISM : 7ZM-1 P2NF

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- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" (S/M Code No. 09-005-434-7T1)

# SPECIFICATIONS

<b>Frequency range:</b>	
<b>Reception area EU</b>	<b>AM</b> 531 – 1,602 kHz (9 kHz steps) <b>FM1, FM2</b> 87.5 – 108 MHz (50 kHz steps)
<b>Reception area USA</b>	<b>AM</b> 530 – 1,710 kHz (10 kHz steps) <b>FM1, FM2</b> 87.5 – 108.1 MHz (200 kHz steps)
<b>Reception area JPN</b>	<b>AM</b> 531 – 1,629 kHz (9 kHz steps) <b>FM1, FM2</b> 76 – 108 MHz (100 kHz steps in 76 – 90 MHz, 50 kHz steps in 90 – 108 MHz)
<b>Maximum output:</b>	4 mW + 4 mW (EIAJ 32 ohms)
<b>Power sources:</b>	DC 1.2 V using supplied rechargeable battery NB-5G DC 1.5 V using a R6 (size AA) dry cell battery AC house current using the optional AC adaptor
<b>Maximum outside dimensions:</b>	79.7 (W) x 108.5 (H) x 20.7 (D) mm (excluding projecting parts and controls)
<b>Weight:</b>	Approx. 145 g (excluding batteries)
<b>&lt;Battery charger RB-107 H&gt;&lt;AH&gt;</b>	
<b>Rated voltage:</b>	AC 115 – 230 V, 50/60 Hz

- Design and specifications are subject to change without notice.

## ACCESSORIES / PACKAGE LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-HR4-902-010		IB, H (ECC) <AH>
1	8A-HR4-903-010		IB, YHS (EC) S<YH>
2	87-B30-298-010		BAT, NB-5G (S)
3	8Z-HK4-090-010		BOX, BAT ASSY SIL
4	8A-HJ2-952-010		CASE, CARRYING BLK
5	87-B30-341-010		CHARGER, RB-107 H (L) <AH>
6	87-B30-337-010		HEADPHONE, HP-M054
7	8A-HJ2-951-010		RC UNIT, RC2000

# ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
<b>IC</b>				C129	87-A11-062-080		C-CAP,S 2.2-16 Z F
	87-A21-179-040	C-IC,TA2123AF		C130	87-010-424-080		CAPACTOR,TANTAL 4.7-4
	87-A20-818-040	C-IC,NJM2185AV		C131	87-010-831-080		C-CAP,U,0.1-16F
	87-A20-961-040	C-IC,MM1279XV		C132	87-010-831-080		C-CAP,U,0.1-16F
	87-A21-634-040	C-IC,S-8321AOMP-DNO-T2		C133	87-A10-707-080		C-CAP,U 0.47U-16 F Z
	87-001-815-040	C-IC,TA7371AF		C134	87-A10-706-080		C-CAP,U 0.33U-16 F Z
	87-A20-076-040	C-IC,TA2022AFN		C135	87-A10-707-080		C-CAP,U 0.47U-16 F Z
	87-A21-675-030	C-IC,TC9327AF-506		C136	87-A10-707-080		C-CAP,U 0.47U-16 F Z
	87-A20-902-040	C-IC,S-80809ANNP-E7Z-T2		C137	87-A10-047-080		C-CAP,U 1-10 Z F
	87-A20-755-080	C-IC,AK93C45AF		C138	87-A10-047-080		C-CAP,U 1-10 Z F
	87-A20-757-040	C-IC,S-80815ANNP-EDC-T2		C139	87-010-424-080		CAPACTOR,TANTAL 4.7-4
	87-A20-819-040	C-IC,S-80811ANNP		C140	87-A11-057-080		C-CAP,U 0.1-16 K B
				C141	87-A11-062-080		C-CAP,S 2.2-16 Z F
				C142	87-A11-062-080		C-CAP,S 2.2-16 Z F
				C143	87-A10-047-080		C-CAP,U 1-10 Z F
<b>TRANSISTOR</b>				C144	87-016-317-080		C-CAP,TN 2.2-6.3
	89-113-625-080	TR,2SA1362GR(120MHZ,0.		C145	87-012-279-080		C-CAP,U 2700P-50 B
	87-A30-506-040	C-TR,DTC144TUA		C146	87-012-279-080		C-CAP,U 2700P-50 B
	87-026-417-080	TR,RN1310		C147	87-A10-047-080		C-CAP,U 1-10 Z F
	87-026-429-040	C-TR,RN2311		C148	87-010-787-080		CAP, U 0.022-25
	89-342-132-080	TR,2SC4213B		C151	87-A10-902-080		C-CAP,U 0.47-10 K B
	89-341-165-080	CHIP TRANSISTOR 2SC4116GR		C152	87-A10-902-080		C-CAP,U 0.47-10 K B
	87-026-414-080	C-TR RN1307		C153	87-A11-058-080		C-CAP,U 0.22-10 K B
	89-342-153-080	TR,2SC42150		C154	87-A11-058-080		C-CAP,U 0.22-10 K B
	89-115-884-080	CHIP -TRANSISTER 2SA1588Y		C155	87-012-274-080		CHIP CAP,U 1000P-50B
	87-A30-396-040	C-TR,DTA144TUA		C156	87-010-746-080		CAP, TANTAL 10-4
	87-026-481-080	TR,RN4607		C201	87-012-286-080		CAP, U 0.01-25
	89-413-284-080	TR,2SD1328T		C202	87-A11-057-080		C-CAP,U 0.1-16 K B
	89-508-804-080	CHIP FET 2SK880Y		C203	87-A11-796-080		C-CAP,S 4.7-10 Z F
	87-026-567-080	C-TR,RN1611		C204	87-010-831-080		C-CAP,U,0.1-16F
				C205	87-A10-707-080		C-CAP,U 0.47U-16 F Z
				C206	87-A10-707-080		C-CAP,U 0.47U-16 F Z
				C207	87-012-286-080		CAP, U 0.01-25
				C208	87-012-286-080		CAP, U 0.01-25
				C209	87-012-286-080		CAP, U 0.01-25
				C301	87-010-944-180		C-CAP,E 220-4 M MV
				C302	87-012-195-080		C-CAP,U 100P-50CH
				C303	87-A10-952-080		C-CAP,TN 22-4 M A MCM
				C401	87-012-195-080		C-CAP,U 100P-50CH
				C402	87-012-286-080		CAP, U 0.01-25
				C403	87-012-335-080		C-CAP,U 270P-50 SL
				C404	87-012-286-080		CAP, U 0.01-25
				C406	87-012-198-080		CAP 180P
				C407	87-012-286-080		CAP, U 0.01-25
				C408	87-012-164-080		C-CAP,U 2P-50 CK
				C409	87-012-286-080		CAP, U 0.01-25
				C410	87-012-165-080		CAP 3P
				C411	87-010-831-080		C-CAP,U,0.1-16F
				C412	87-012-286-080		CAP, U 0.01-25
				C413	87-012-193-080		C-CAP,U 82P-50 CH
				C414	87-012-286-080		CAP, U 0.01-25
				C416	87-A10-047-080		C-CAP,U 1-10 Z F
				C419	87-012-286-080		CAP, U 0.01-25
				C451	87-012-167-080		C-CAP,U 5P-50 CH
				C452	87-012-282-080		CAP, U 4700P-50
				C453	87-012-195-080		C-CAP,U 100P-50CH
				C454	87-A11-062-080		C-CAP,S 2.2-16 Z F
				C455	87-012-286-080		CAP, U 0.01-25
				C456	87-A12-348-080		C-CAP,U 560P-25 CH
				C458	87-012-245-080		C-CAP,U 15P-50 UJ
				C459	87-012-172-080		CAPACITOR CHIP U 10P CH
				C460	87-A10-025-080		C-CAP,U 0.22-16Z F
				C461	87-012-273-080		C-CAP,U 820P-50 B
				C462	87-012-286-080		CAP, U 0.01-25
				C463	87-012-286-080		CAP, U 0.01-25
				C464	87-012-274-080		CHIP CAP,U 1000P-50B
				C465	87-012-282-080		CAP, U 4700P-50
				C466	87-A10-047-080		C-CAP,U 1-10 Z F
				C467	87-012-274-080		CHIP CAP,U 1000P-50B
				C468	87-A10-025-080		C-CAP,U 0.22-16Z F
<b>DIODE</b>							
	87-A40-642-040	C-DIODE 1SS367					
	87-001-166-080	DIODE,1SS301					
	87-A40-655-080	C-VARI-CAP,HVU200A					
	87-A40-799-040	C-VARI-CAP,KV1610S					
	87-001-553-080	C-DIODE 1SS322					
	87-A40-883-040	C-ZENER,02DZ13-Y					
<b>MAIN C.B</b>							
BPF401	87-A90-601-010	FLTR,BPF GFWB7					
C101	87-012-274-080	CHIP CAP,U 1000P-50B					
C102	87-012-274-080	CHIP CAP,U 1000P-50B					
C103	87-012-274-080	CHIP CAP,U 1000P-50B					
C104	87-012-274-080	CHIP CAP,U 1000P-50B					
C105	87-A10-952-080	C-CAP,TN 22-4 M A MCM					
C106	87-A10-952-080	C-CAP,TN 22-4 M A MCM					
C107	87-016-114-080	C-CAP,U0.01-25B					
C108	87-016-114-080	C-CAP,U0.01-25B					
C109	87-010-828-080	CHIP CAPACITOR,U 0.033-25F					
C110	87-010-828-080	CHIP CAPACITOR,U 0.033-25F					
C111	87-A10-047-080	C-CAP,U 1-10 Z F					
C112	87-A10-047-080	C-CAP,U 1-10 Z F					
C113	87-A11-049-080	C-CAP,U 1-6.3 K B					
C114	87-A11-049-080	C-CAP,U 1-6.3 K B					
C115	87-A11-049-080	C-CAP,U 1-6.3 K B					
C116	87-A11-049-080	C-CAP,U 1-6.3 K B					
C117	87-A10-707-080	C-CAP,U 0.47U-16 F Z					
C118	87-A10-707-080	C-CAP,U 0.47U-16 F Z					
C119	87-A10-704-080	C-CAP,TN 100-2.5 M B2					
C120	87-A10-704-080	C-CAP,TN 100-2.5 M B2					
C121	87-010-831-080	C-CAP,U,0.1-16F					
C122	87-A10-952-080	C-CAP,TN 22-4 M A MCM					
C123	87-A10-025-080	C-CAP,U 0.22-16Z F					
C124	87-012-286-080	CAP, U 0.01-25					
C125	87-010-831-080	C-CAP,U,0.1-16F					
C126	87-A10-952-080	C-CAP,TN 22-4 M A MCM					
C128	87-A10-707-080	C-CAP,U 0.47U-16 F Z					

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C469	87-010-831-080	C-CAP,U,0.1-16F		FB107	87-A91-763-080	C-F-BEAD, BK1608LM252	
C471	87-012-280-080	CAP, U 3300P-50		FB108	87-A91-763-080	C-F-BEAD, BK1608LM252	
C472	87-012-280-080	CAP, U 3300P-50		IFT451	87-005-788-080	C-IFT,AM (450K)	
C473	87-A10-047-080	C-CAP,U 1-10 Z F		J101	86-HJ2-604-110	JACK,DIA3.5 ST 9P	
C474	87-A10-047-080	C-CAP,U 1-10 Z F		L110	87-A50-606-080	C-COIL,1.0UH K	
C475	87-010-787-080	CAP, U 0.022-25		L301	87-A50-361-080	C-COIL,100UHKNLFC252018	
C476	87-A10-952-080	C-CAP,TN 22-4 M A MCM		L303	87-A50-639-080	C-COIL,S 33UH M FCI2012V	
C477	87-010-746-080	CAP, TANTAL 10-4		L401	87-A50-245-080	C-COIL,S 0.1UH G	
C478	87-010-831-080	C-CAP,U,0.1-16F		L402	87-A50-244-080	C-COIL,S 82NH G	
C479	87-010-829-080	CAP, U 0.047-16		L403	87-A50-583-080	C-COIL,S 2.2UH K FCI2012H	
C480	87-012-349-080	C-CAP,S 1000P-50 CH		L451	8A-HR4-605-010	BAR-ANT,MW	
C481	87-A10-047-080	C-CAP,U 1-10 Z F		L452	87-A50-363-080	C-COIL, 100UH J NLV25T	
C501	87-012-286-080	CAP, U 0.01-25		L501	87-A50-622-080	C-COIL,DD-CONV	
C502	87-010-831-080	C-CAP,U,0.1-16F		L502	87-A50-367-080	C-COIL, 10UH LQG21F	
C503	87-012-286-080	CAP, U 0.01-25		L503	87-A50-367-080	C-COIL, 10UH LQG21F	
C504	87-A10-047-080	C-CAP,U 1-10 Z F		LCD601	8A-HJ2-606-010	LCD,AIW4223	
C505	87-A10-952-080	C-CAP,TN 22-4 M A MCM		PS251	87-A91-803-040	C-SNSR,5197K-F25	
C506	87-A10-047-080	C-CAP,U 1-10 Z F		R103	87-022-437-080	C-RES,U 430-1/16W F	
C507	87-A10-047-080	C-CAP,U 1-10 Z F		R104	87-022-437-080	C-RES,U 430-1/16W F	
C508	87-010-746-080	CAP, TANTAL 10-4		R107	87-022-243-080	CHIP RES,U 15K-1/16W F	
C509	87-A10-047-080	C-CAP,U 1-10 Z F		R108	87-022-243-080	CHIP RES,U 15K-1/16W F	
C510	87-A10-952-080	C-CAP,TN 22-4 M A MCM		R109	87-022-292-080	CHIP RES U 330K-1/16W F	
C551	87-010-787-080	CAP, U 0.022-25		R110	87-022-292-080	CHIP RES U 330K-1/16W F	
C552	87-A11-282-080	C-CAP,S 1-16 K B		R151	87-022-252-080	C-RES,U36K-1/16WF	
C553	87-A10-047-080	C-CAP,U 1-10 Z F		R216	87-A00-695-080	M-RES,M/F 3.9K-1/8W J 3000PPM	
C601	87-010-831-080	C-CAP,U,0.1-16F		R608	87-022-292-080	CHIP RES U 330K-1/16W F	
C602	87-012-286-080	CAP, U 0.01-25		R610	87-022-237-080	C-RES,U 8.2K-1/16W F	
C603	87-A10-952-080	C-CAP,TN 22-4 M A MCM		R619	87-022-237-080	C-RES,U 8.2K-1/16W F	
C604	87-010-831-080	C-CAP,U,0.1-16F		S101	8A-HR4-604-010	SW,LEAF 7ZM-1 P2	
C605	87-012-180-080	C-CAP,U 22P-50 CH		S601	87-036-237-080	CHIP SWITCH PUSH	
C606	87-012-180-080	C-CAP,U 22P-50 CH		S603	87-A90-665-280	C-SW,TACT LS7A2M	
C607	87-A10-025-080	C-CAP,U 0.22-16Z F		S604	87-A91-758-080	C-SW,LVR 1-1-3 SLLB310300	
C608	87-010-831-080	C-CAP,U,0.1-16F		S605	87-A90-665-280	C-SW,TACT LS7A2M	
C609	87-010-831-080	C-CAP,U,0.1-16F		S606	87-A90-665-280	C-SW,TACT LS7A2M	
C610	87-010-831-080	C-CAP,U,0.1-16F		S607	87-A90-665-280	C-SW,TACT LS7A2M	
C611	87-010-831-080	C-CAP,U,0.1-16F		SFR201	87-A91-465-040	C-SFR,K 6.8K H RH03AEC	
C612	87-012-184-080	C-CAP,U 33P-50 CH		SFR451	87-A91-466-040	C-SFR,K 22K H RH03AEC	
CF451	87-A90-456-080	C-FLTR,PFWCC 450J3		VR101	87-A91-757-010	VR,RTRY 20KAX2 V RK10J12E0	
CF452	87-A91-321-080	C-FLTR,SFECV10.7 MA-5-A-TC		X601	87-A70-187-010	VIB,XTAL 75KHZ CFV206	
CF453	87-A91-321-080	C-FLTR,SFECV10.7 MA-5-A-TC					
CF454	87-A91-441-080	C-FLTR,CDACV10.7 MG50-A-TC		SW C.B			
CT401	87-011-189-180	C-TRIMMER,CER 10P 4.5X3.2 CTZ					
CT402	87-011-192-180	C-TRIMMER,CER 30P 4.5X3.2 CTZ		S602	87-036-379-180	C-SW,SL1-1-2 SS350	
CT451	87-011-189-180	C-TRIMMER,CER 10P 4.5X3.2 CTZ					
FB101	87-A91-763-080	C-F-BEAD, BK1608LM252					
FB102	87-A91-763-080	C-F-BEAD, BK1608LM252					
FB103	87-A91-763-080	C-F-BEAD, BK1608LM252					
FB104	87-A91-763-080	C-F-BEAD, BK1608LM252					
FB105	87-A91-763-080	C-F-BEAD, BK1608LM252					
FB106	87-A91-763-080	C-F-BEAD, BK1608LM252					

○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

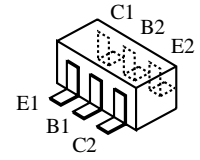
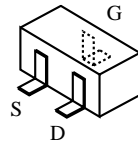
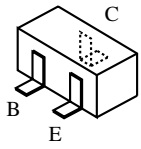
桁表示  
Figure

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



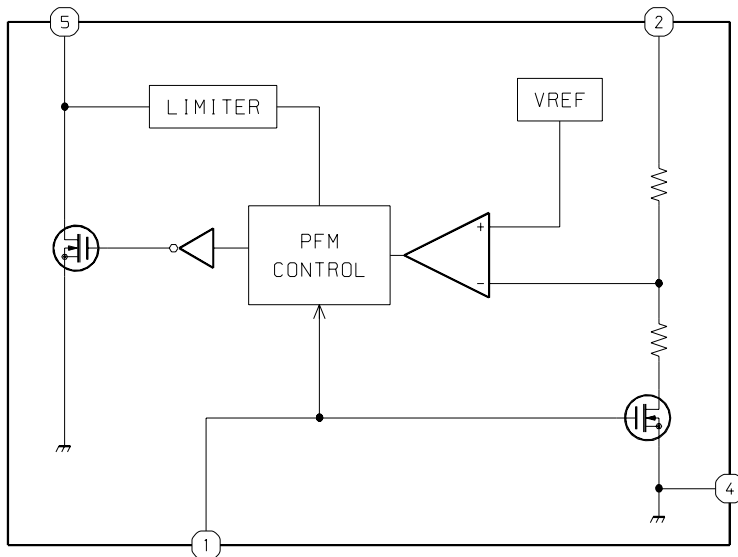
DTA144      2SA1588  
 DTC144      2SC4116  
 RN1307      2SC4213  
 RN1310      2SC4215  
 RN2311      2SD1328  
 2SA1362

2SK880

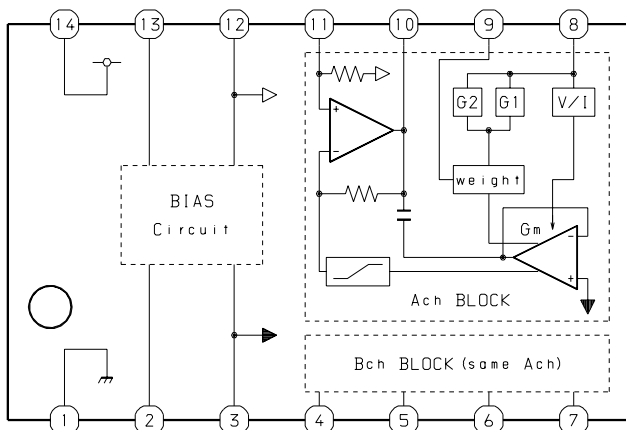
RN1611  
 RN4607

## IC BLOCK DIAGRAM - 1

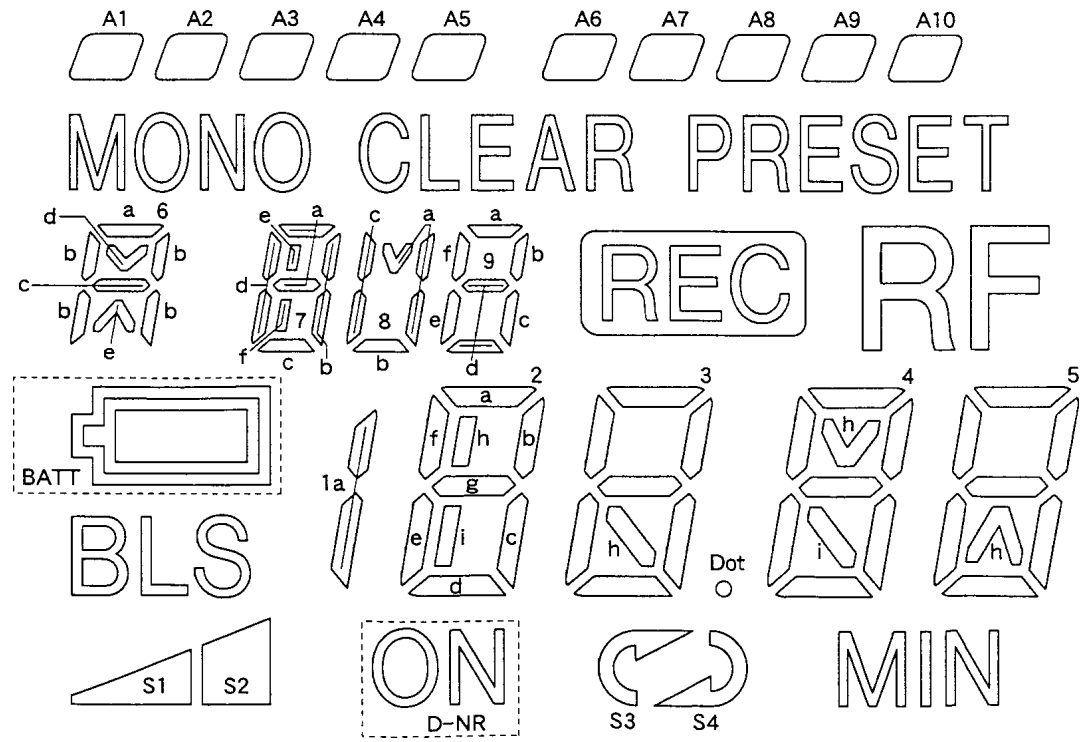
IC, S-8321AOMP-DN0-T2



IC, NJM2185AV



LCD DIAGRAM  
LCD, AIW4223  
GRID ASSIGNMENT

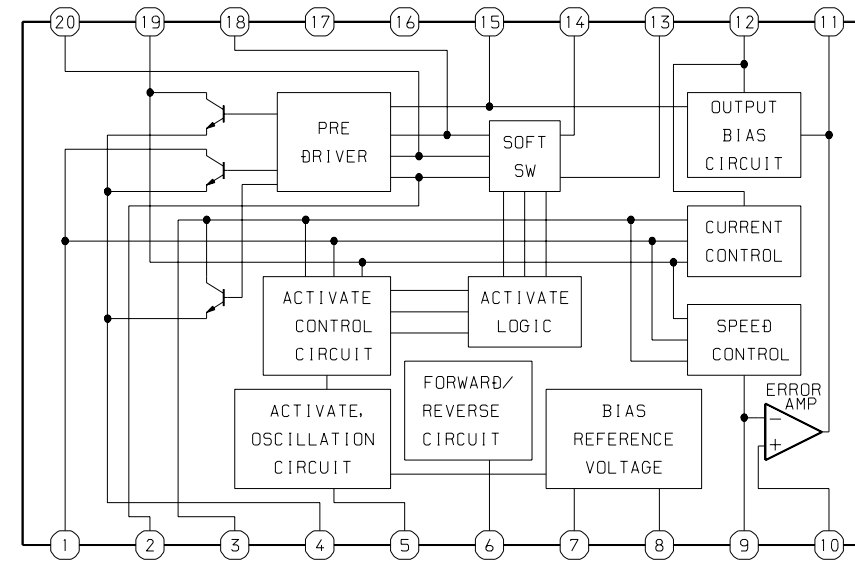


ANODE CONNECTION

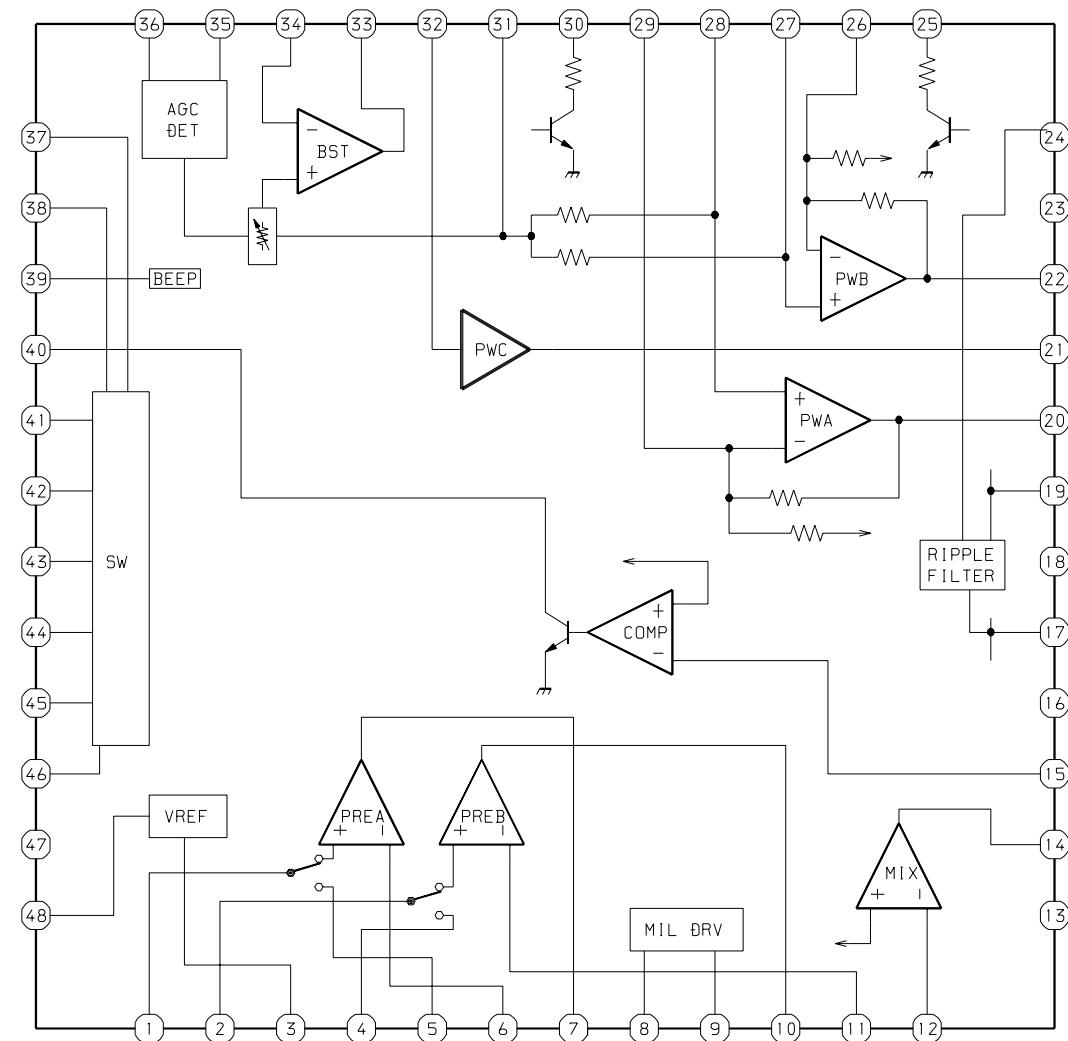
NO	COM1	COM2	COM3	COM4
1	A1	A3	7b	8c
2	A2	MONO	7e	7a
3	6a	6b	7f	7d
4	6d	6c	6e	7c
5	CLEAR	BATT	8b	8a
6	9f	S1	BLS	9e
7	9a	S2	1a	9d
8	9b	2e	2f	9c
9	2d	2i	2g	2h
10	D-NR	2c	2b	2a
11	A5	3e	3f	REC
12	3d	3h	3g	3a
13	A6	3c	3b	PRESET
14	A10	S3	Dot	R
15	S4	4e	4f	F
16	4d	4i	4g	4h
17	MIN	4c	4b	4a
18	A7	5e	5f	A9
19	5d	5h	5g	5a
20	A4	5c	5b	A8
21	COM1	---	---	---
22	---	COM2	---	---
23	---	---	COM3	---
24	---	---	---	COM4

IC BLOCK DIAGRAM - 2

IC, MM1279XV

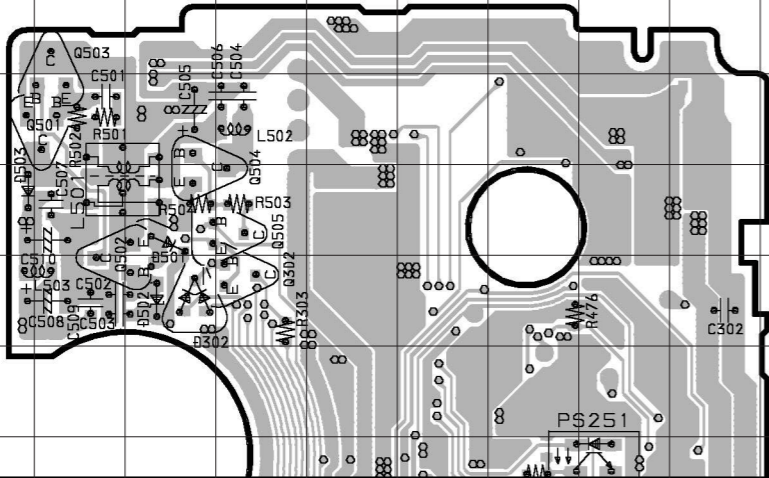


IC, TA2123AF

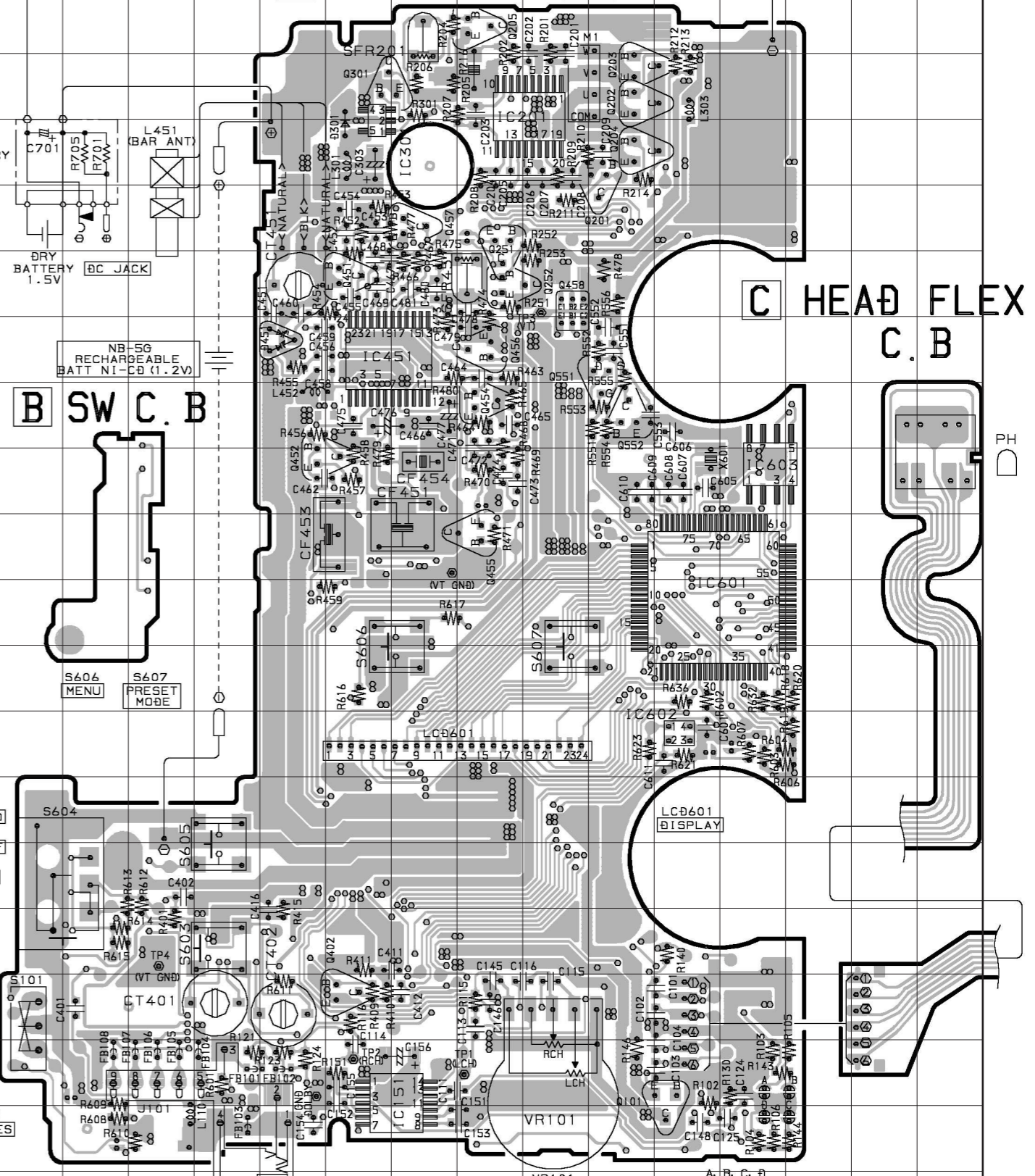


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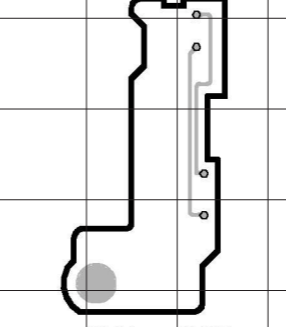
A MAIN C.B



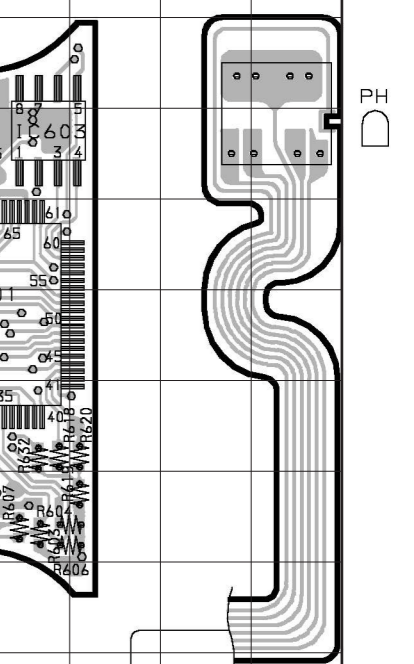
A MAIN C.B



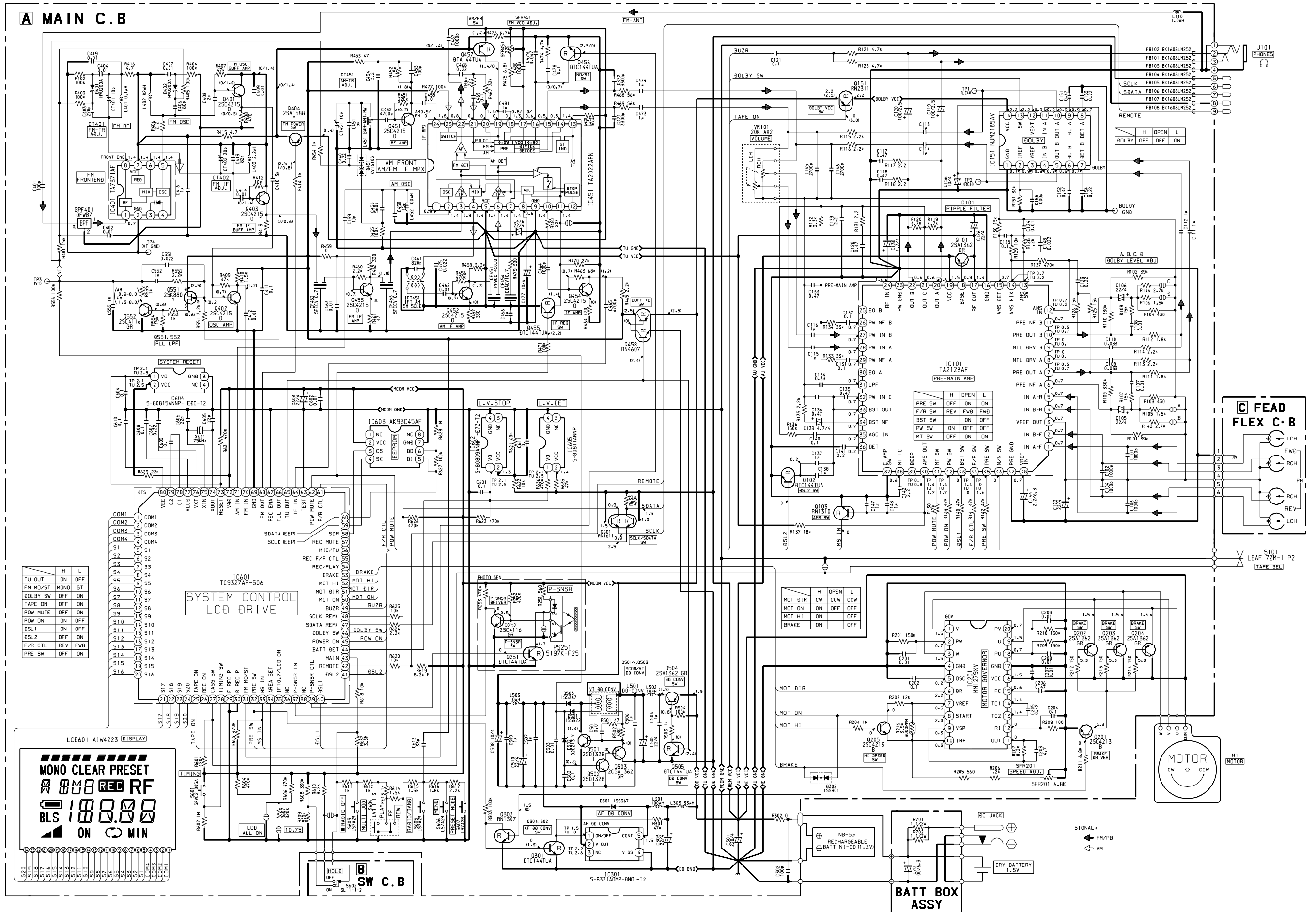
B SW C.B



C HEAD FLEX C.B



A A  
B B  
C C  
D D BATTERY BOX ASSY  
E E  
F F  
G G NB-5G RECHARGEABLE BATT NI-Cd (1.2V)  
H H B SW C.B  
I I  
J J  
K K  
L L S606 MENU S607 PRESET MODE  
M M  
N N S605 RADIO/BAND S603 RADIO OFF S604 MULTI JOG  
P P REW PLAY FF  
Q Q S101 TAPE SEL  
R R J101 PHONES  
S S  
T T  
U U





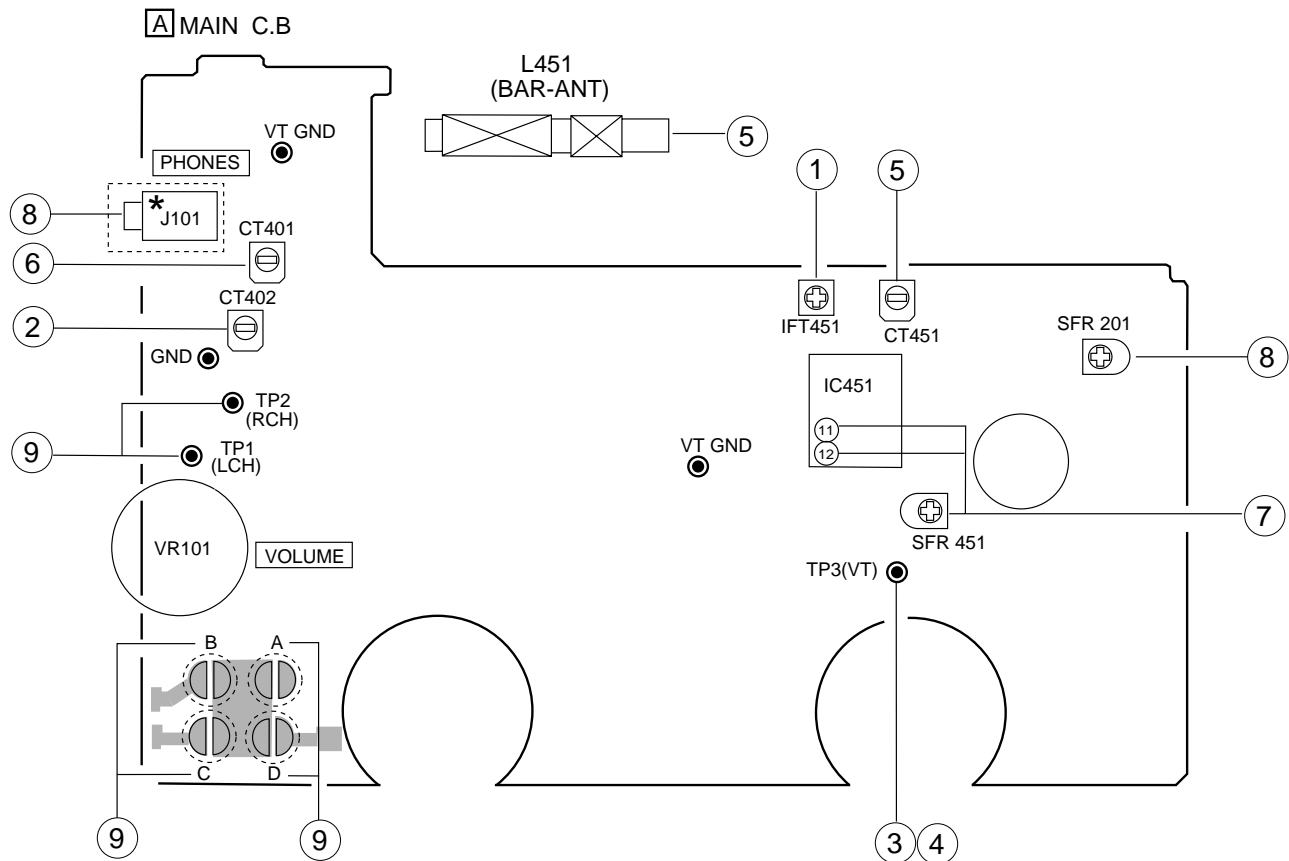
## IC DESCRIPTION

### IC, TC9327AF-506

Pin No.	Pin Name	I/O	Description
1 ~ 4	COM1 ~ COM4	O	LCD driver common output.
5 ~ 24	S1 ~ S20	O	LCD driver output.
25	TAPE ON	O	H: Except TAPE mode, L: TAPE mode.
26	REC ON	O	Always output L. (Not used)
27	CASS SW	I	H: SW OFF, L: SW ON.
28	TIMING SW	I	Input mechanism operation detection.
29	F REC P	I	Connected to ground.
30	R REC P	I	Connected to ground.
31	FM MO/ST	O	Output FM MONO/STEREO switching.
32	PRE SW	O	H: Radio mode, L: Except Radio mode.
33	MS IN	I	H: Exist music, L: No music.
34	AREA SET	I	Input voltage level of each AREA(D,U,E,H).
35	IF 10.7/LCD ON	I	H: IF 10.7, MID: IF 10.75, L: LCD ALL ON.
36	NC	I	Not connected.
37	P-SNSR IN	I	Input P-SNSR output waveform.
38	NC	O	Always output L. (Not connected)
39	P-SNSR CTL	O	Control P-SNSR circuit power supply.
40	DSL1	O	H: DSL ON, L: DSL OFF.
41	DSL2	O	H: DSL1, L: DSL2.
42	REMOTE	I	Input remote controller key.
43	MAIN	I	Input main unit key.
44	BATT DET	I	Reducing voltage mecha stop.
45	POWER ON	O	H: Except standby mode, L: Standby mode.
46	DOLBY SW	O	H: Dolby OFF, L: Dolby ON.
47	SDATA(REM)	O	Output display data for remote controller.
48	SCLK(REM)	I	Input serial clock.
49	BUZR	O	Output buzzer.
50	MOT ON	O	H: Motor ON, L: Motor OFF.
51	MOT DIR	O	H: Clockwise, L: Counter clockwise.
52	MOT HI	O	H: Hi speed, L: Nomal speed.
53	BRAKE	O	H: Motor brake ON, L: OFF.
54	REC/PLAY	O	Always output L. (Not used)
55	REC F/R CTL	O	Always output L. (Not used)
56	MIC/TU	O	Always output L. (Not used)
57	REC MUTE	O	Always output L. (Not used)
58	SDR	O	EEPROM R/W switching terminal.(Not used)
59	SCLK(EEP)	O	Output EEPROM serial clock.
60	SDATA(EEP)	I/O	Input/output EEPROM.
61	F/R CTL	O	H: REV mode, L: FWD mode.
62	POW MUTE	O	H: Mute OFF, L: Mute ON.

Pin No.	Pin Name	I/O	Description
63	TEST	-	Connected to ground.
64	IF IN	I	Input IF signal.
65	TU OUT	O	H: Radio mode, L: Except Radio mode.
66	PLL OUT	O	Output phase comparator.
67	REC ENA	I	Connected to ground.
68	FM OUT	O	H: Except FM mode, L: FM mode.
69	GND	-	Connected to ground.
70	FM IN	I	Input FM programable counter.
71	AM IN	I	Input AM programable counter.
72	VDD	-	Connected to VDD.
73	RESET	I	Input reset.
74	XOUT	O	Connected to crystal oscillator.
75	XIN	I	
76	VXT	-	Power supply for crystal oscillator.
77	VLCD	-	Reference voltage for LCD drive.
78	C1	-	
79	C2	-	
80	VEE	-	1.5V constant voltage for LCD drive.

## ADJUSTMENT



Note :

\* : J101 On the other side of the components.

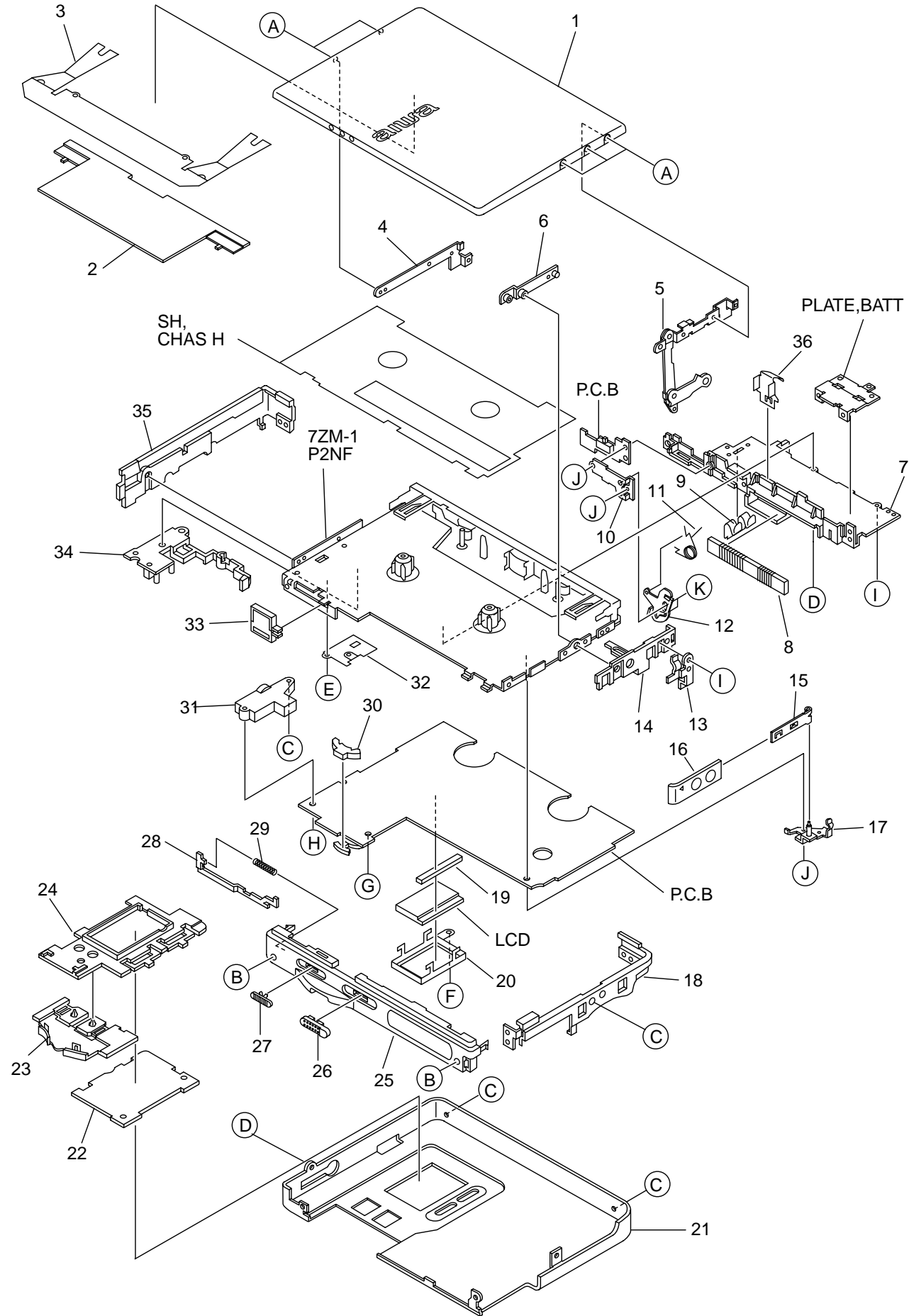
### <RADIO SECTION>

1. AM IF Adjustment  
IFT451 ..... 450 kHz
2. FM IF Adjustment  
CT402 ..... 10.7 MHz
3. AM VT Check  
Settings : • Test point : TP3 (VT)  
Method : Set to AM 531 kHz and check that the test point is  $1.2\text{ V} \pm 0.3\text{ V}$ . Then set to AM 1602 kHz and check that the test point is less than 7.8 V.
4. FM VT Check  
Settings : • Test point : TP3 (VT)  
Method : Set to FM 87.5 MHz and check that the test point voltage is  $3.5\text{ V} \pm 0.3\text{ V}$ .  
Then set to FM 108.0 MHz and check that the test point voltage is less than 8.5 V.
5. AM Tracking Adjustment  
L451 ..... 630 kHz  
CT451 ..... 1440 kHz
6. FM Tracking Adjustment  
CT401 ..... 87.5 MHz
7. FM VCO Adjustment  
Settings : • Adjustment location : SFR451  
Method : Connect a frequency counter to pin 11 & 12 of IC451. Adjust SFR 451 such that the frequency counter indicates  $19\text{ kHz} \pm 100\text{ Hz}$ .

### <TAPE PLAYER SECTION>

8. Tape Speed Adjustment  
Settings : • Test tape : TTA-100  
• Test point : Phones Jack (J101)  
• Adjustment location : SFR201  
• DSL : OFF  
Method : Play back the test tape and adjust SFR201 for 3015 Hz  $\pm 10\text{ Hz}$  (FWD) and 3015 Hz  $\pm 50\text{ Hz}$  (REV). Then confirm WOW is less than 0.5%.
9. Dolby Level Adjustment  
Settings : • Test tape : TTA-200  
• Test point : TP1(LCH), TP2(RCH)  
• Adjustment location : A, D (LCH)  
B, C (RCH)  
• VOLUME : MIN "0"  
• DOLBY SW(AU) : OFF  
Method : Connect a coupling capacitor (10  $\mu\text{F}$  / 16 V) between the test point and AC voltage meter about. Check the test point voltage for  $32\text{ mV} \pm 1.0\text{ dB}$ . If TP1, TP2 level is different from the SPEC, perform this adjustment following the procedure below:

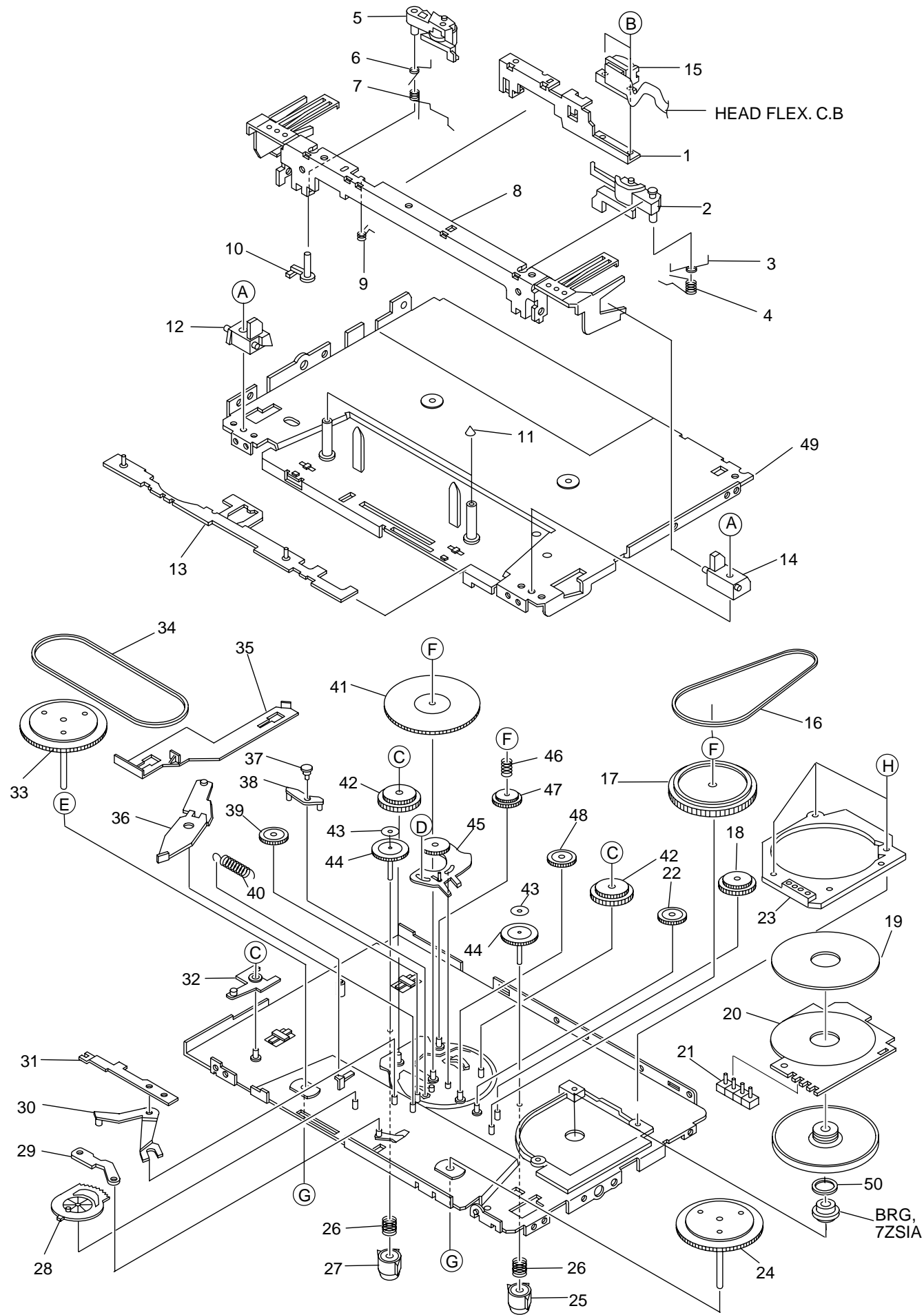
	Out level	Solder place
TP1 (LCH)	32mV + 1dB up	D
	32mV + 2dB up	A
	32mV + 2.7dB up	A, D
TP2 (RCH)	32mV + 1dB up	C
	32mV + 2dB up	B
	32mV + 2.7dB up	B, C



REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-HR4-001-010		LID, ASSY CASS S
2	8A-HR4-003-010		PANEL, CASS
3	8Z-HK4-228-010		SPR-P, LID
4	8A-HJ2-202-010		HLDR, LID
5	8Z-HK4-206-110		HLDR, ARM ASSY
6	8Z-HK4-210-010		NUT, B-BOX
7	8A-HJ2-203-010		HLDR, BATT
8	8A-HR4-605-010		BAR-ANT, MW
9	8A-HJ2-207-010		BAT-CONTACT, (-)
10	8A-HJ2-209-010		BASE, LOCK
11	8A-HJ2-224-010		SPR-T, LOCK
12	8A-HJ2-229-010		PLATE, LOCK J2
13	8A-HJ2-216-010		BAT-CONTACT, BOX (-)
14	8A-HK5-202-010		HLDR, CONT
15	8A-HJ2-208-010		BAT-CONTACT, (+)
16	8A-HJ2-008-010		LID, BAT
17	8A-HJ2-213-010		SHAFT, ASSY
18	8A-HJ2-006-010		FRAME, R
19	8A-HJ2-222-010		CONN, RUBBER LCD
20	8A-HJ2-221-010		HLDR, LCD
21	8A-HR4-004-010		CABI, REAR S
22	8A-HR4-006-010		WINDOW, LCD
23	8A-HJ2-009-010		PANEL, CONT
24	8A-HR4-005-010		KEY, MENU
25	8A-HJ2-005-010		FRAME, CENTER
26	8A-HJ2-013-010		KNOB, SL OPEN
27	8A-HJ2-014-010		KNOB, SL HOLD
28	8A-HJ2-210-010		PLATE, OPEN
29	8A-HJ2-217-010		SPR-C, RECF
30	8A-HJ2-012-010		KNOB, SL JOG
31	86-HJ2-604-010		JACK, DIA3.5 ST 9P
32	8A-HJ2-206-010		PLATE, HP
33	8A-HR4-604-010		SW, LEAF 7ZM-1 P2
34	8A-HJ2-204-010		HLDR, MIC
35	8A-HJ2-007-010		FRAME, L
36	8A-HJ2-212-010		SPR-P, CASS
A	87-067-754-010		V+1.4-1.6 CR N
B	8A-HJ2-227-010		S-SCREW, SR+1.4-7 CR L
C	85-HK3-241-010		SCRW-SR, 1.4-3CR L
D	87-078-186-010		SCRW-SR, 1.4-1.8 CR L
E	87-078-216-010		SCRW-SR, 1.4-1.4B LS
F	8Z-HR8-212-010		S-SCREW, +1.4-4.5 CR HL
G	8A-HK5-217-010		S-SCREW, SERR1.4-6 CR
H	87-262-511-310		SCREW, V+1.4-5 (BLACK)
I	87-078-153-010		SCRW, 1.4-2.5 CR
J	87-067-732-010		TAPPING SCREW, VT1.4-3
K	87-078-206-010		S-SCRW, 1.4-0.6 B NL

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



REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	87-ZM1-230-010		HLDR, HEAD
2	87-ZM1-254-110		ARM ASSY, PINCH R
3	87-ZM1-287-010		SPR-T, PINCH BACK R
4	87-ZM1-285-010		SPR-T, PINCH R
5	87-ZM1-252-110		ARM ASSY, PINCH L
6	87-ZM1-286-010		SPR-T, PINCH BACK L
7	87-ZM1-284-010		SPR-T, PINCH L
8	87-ZM1-225-110		HLDR ASSY, CASSET
9	87-ZM1-275-010		SPR-T, HEAD BACK
10	87-ZM1-269-010		SHAFT, PINCH
11	87-ZM1-267-010		CAP, CAPSTAN
12	87-ZM1-263-010		HLDR, CASSET HLD L
13	87-ZM1-221-110		LEVER ASSY, DIR
14	87-ZM1-264-010		HLDR, CASSET HLD R
15	87-ZM1-601-010		HEAD ASSY, 7ZM-1
16	87-ZM1-271-010		BELT, MOT
17	87-ZM1-234-110		GEAR, PULLY
18	87-ZM1-244-010		GEAR, IDL D
19	M8-7ZS-191-000		ABL-71 YMB
20	87-ZS1-205-010		COIL, FP 7ZS1A
21	87-ZS1-216-010		PIN ASSY, 7ZS1 5.0
22	87-ZM1-243-010		GEAR, IDL C
23	87-ZS1-210-210		HLDR, 7ZS1A
24	87-ZM1-248-410		FLY-WHL ASSY, L
25	80-ZM4-230-310		REAL CAP, L
26	85-ZM2-269-010		SPR-C GEAR REEL
27	80-ZM4-231-210		REAL CAP, R
28	87-ZM1-232-010		GEAR, CAM
29	87-ZM1-266-210		HLDR, DIR
30	87-ZM1-268-010		LEVER, CAM 2
31	87-ZM1-265-010		HLDR, CAM
32	87-ZM1-261-010		LEVER, SW
33	87-ZM1-250-210		FLY-WHL ASSY, R
34	87-ZM1-272-010		BELT, FLY-WHL
35	87-ZM1-306-010		LEVER, DIR OFF J
36	87-ZM1-231-010		LEVER, CAM CONNECT
37	87-ZM1-207-010		SHAFT, CONTROL
38	87-ZM1-262-110		LEVER, FR CONTROL
39	87-ZM1-246-010		GEAR, CAM C
40	87-ZM1-282-110		SPR-E, CAM
41	87-ZM1-325-010		GEAR ASSY, SLIP J
42	87-ZM1-241-010		GEAR, IDL A
43	87-ZM1-307-010		SH, AUTO J
44	87-ZM1-236-110		GEAR, REEL
45	87-ZM1-217-010		LEVER ASSY, T-UP
46	87-ZM1-281-010		SPR-C, FR
47	87-ZM1-245-010		GEAR, FF/REW
48	87-ZM1-242-010		GEAR, IDL B
49	87-ZM1-335-010		CHAS ASSY, OUT-SERT R1NF
50	87-ZS1-211-010		MAGNET, PULL 7ZS1A
A	87-ZM1-273-010		S-SCREW, 1.7-5
B	87-ZM1-274-010		S-SCREW, HEAD 7ZM-1
C	87-B10-136-010		W-P, 1.09-3.1-0.4
D	87-B10-228-010		W-P, 0.95-2-0.2
E	87-ZM1-292-010		W, 1.55-2.62-0.2 SOMA LIGHT
F	87-ZM1-291-010		W-P, 0.86-3-0.25
G	87-ZM1-296-010		W-L, 1.15-2.6-0.188
H	87-ZS1-215-010		S-SCREW, VT+1.4-3.5 CR HL

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