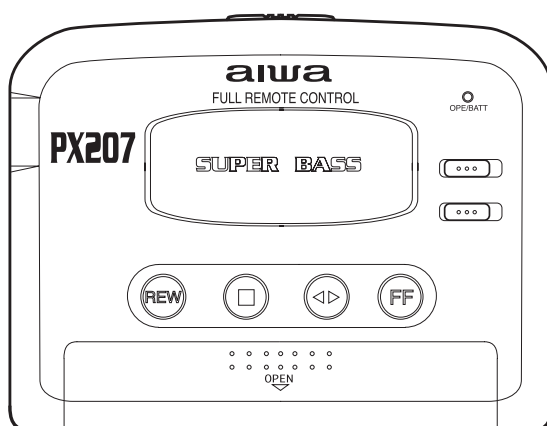


HS-GMX700 Y

HS-GMX800 Y

HS-PX207 Y

HS-PX307 Y



SERVICE MANUAL

STEREO RADIO
CASSETTE PLAYER

BASIC TAPE MECHANISM : CL-850-5 SIL

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" (S/M Code No. 09-99C-425-6T1)

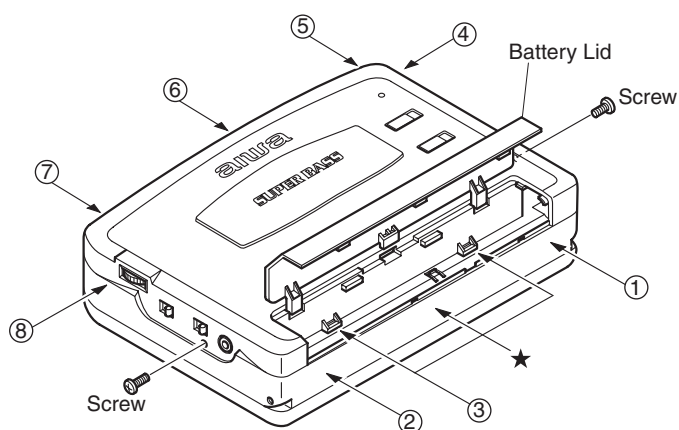
SPECIFICATIONS

Maximum output:	4 mW + 4 mW (EIAJ 16 ohms)
Load impedance:	16 – 32 ohms
Power source:	DC 3V using two R6 (AA) dry cell batteries, AC house current using the optional AC adaptor AC-D302
Battery life (EIAJ 1 mW output):	Aprox. 24 hours using two LR6 (AA) alkaline batteries
Maximum outside dimensions:	112.9 (W) x 84 (H) x 29.3 (D) mm (excluding projecting parts and controls) (4 $\frac{1}{2}$ x 3 $\frac{3}{8}$ x 1 $\frac{3}{16}$ in.)
Weight	Approx. 124g (4.3 oz) excluding batteries

- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
“DOLBY” and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.
- Design and specifications are subject to change without notice.

DISASSEMBLY INSTRUCTION

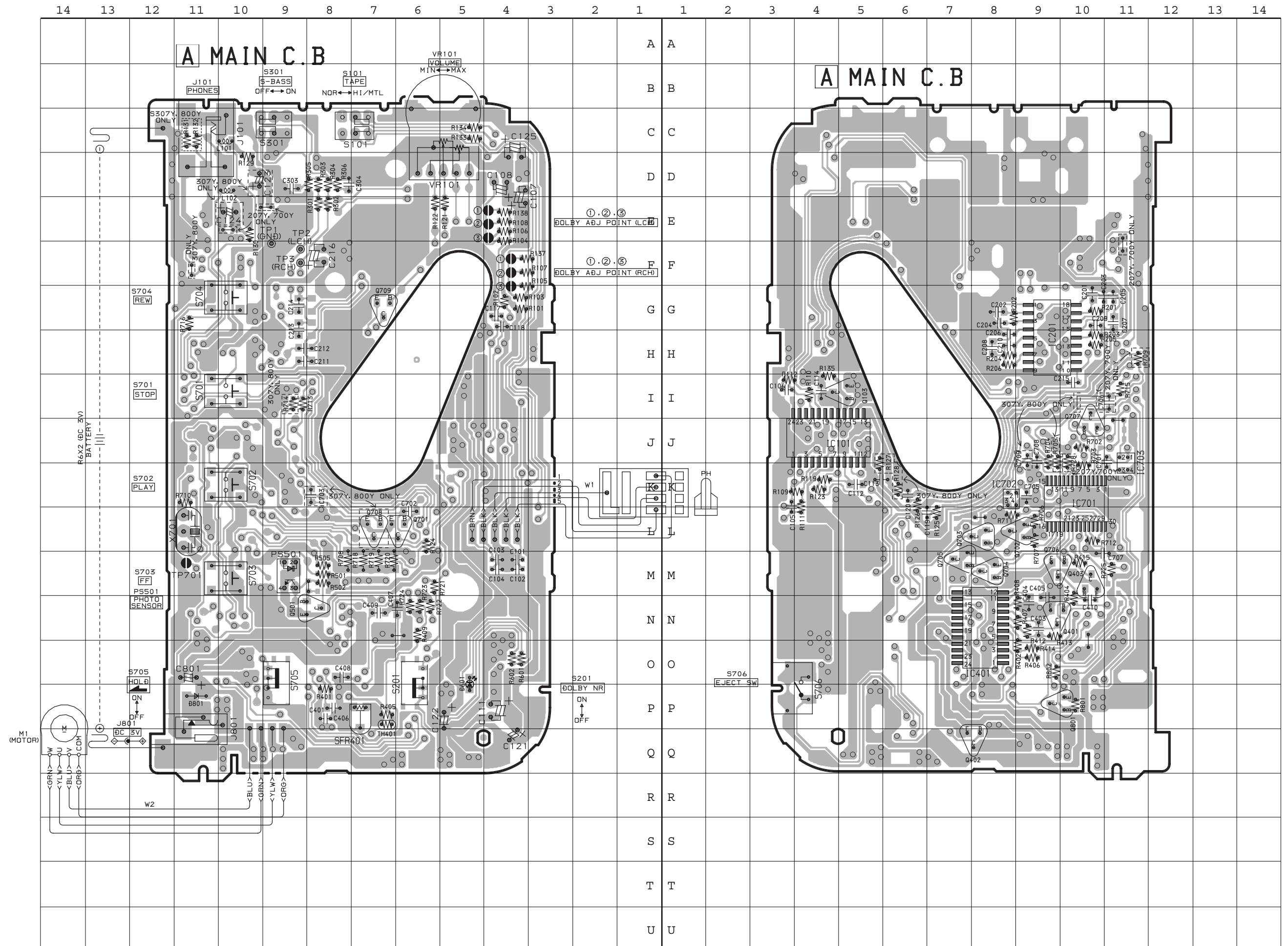
- 1) Remove the 2 screws.
 - 2) Open the battery lid.
 - 3) Release the hooks in the order of ① - ⑧.
- * Releasing hook ③: After releasing hooks ① and ②, push the center frame (with the ★ marks) to release hook ③.



ELECTRICAL MAIN PARTS LIST

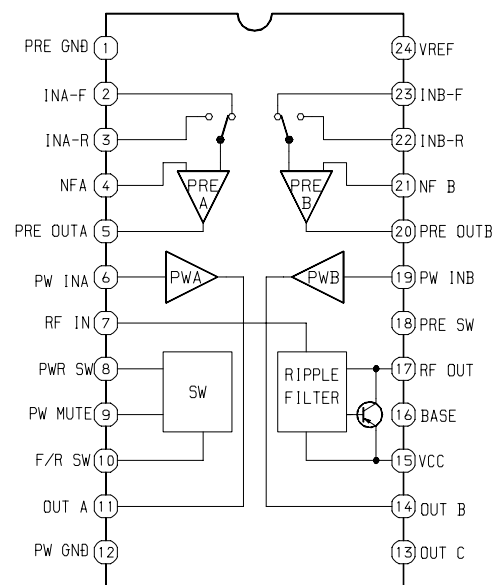
REF.NO.	PARTNO.	KANFI NO	DESCRIPTION	REF.NO.	PARTNO.	KANFI NO	DESCRIPTION
IC				C701	87-A10-263-080		C-CAP,U 0.1-16 Z F
				C702	87-012-141-080		C-CAP,U 0.22-16 Z F
	87-002-677-080	C-IC,TA2002F		C703	87-012-141-080		C-CAP,U 0.22-16 Z F<307,800>
	87-017-805-080	C-IC,AN7375NS(OP AMP)		C705	87-A10-263-080		C-CAP,U 0.1-16 Z F
	87-A20-532-140	C-IC,LB1977M-TLM		C706	87-010-805-080		CAP, S 1-16<207,700>
	87-A21-567-040	C-IC,TMP47C443LDM-1B45(EL)					
	87-A21-566-040	C-IC,S-80820ANNP		C707	87-010-196-080		C-CAP,0.1-25
				C708	87-A10-263-080		CAP, U 0.1-16 Z F
	87-A21-565-040	C-IC,S-80817ANNP		C709	87-A10-263-080		CAP, U 0.1-16 Z F<307,800>
				C801	87-A10-489-010		CAP,E 220-4 7L SR
			D601	87-A91-355-040		C-LED,BR1112H-TR-RED	
TRANSISTOR				J101	87-A60-438-010		JACK,3.5 BLK ST W/O SW<207,700>
	89-111-625-080	C-TR,2SA1162GR		J101	87-A60-437-010		JACK,3.5 BLK ST W/O SW4P<307,800>
	89-327-125-080	C-TR,2SC2712GR	J801	87-A61-124-010		JACK,DC DIA2.75 BLK TC	
	89-113-625-080	C-TR,2SA1362GR	L101	87-A50-581-080		C-COIL,S FCM2012H 252705	
	87-026-581-080	C-TR,RN2405	L102	87-A50-581-080		C-COIL,S FCM2012H 252705	
	87-026-267-080	C-TR,RN2407					
			PS501	87-A90-440-010		SNSR,PHOTO GP2S24N2-B	
	87-A30-085-040	C-TR,CSA1362GR	R103	87-022-279-080		C-RES,U 470-1/16W F	
			R104	87-022-279-080		C-RES,U 470-1/16W F	
			R105	87-022-217-080		C-RES,U 1.2K-1/16W F	
DIODE			R106	87-022-217-080		C-RES,U 1.2K-1/16W F	
	87-A40-822-040	C-DIODE,CRS01	R107	87-022-221-080		C-RES,U 1.8K-1/16W F	
			R108	87-022-221-080		C-RES,U 1.8K-1/16W F	
			R109	87-022-292-080		C-RES, U 330K-1/16W F	
			R110	87-022-292-080		C-RES, U 330K-1/16W F	
			R111	87-022-243-080		C-RES,U 15K-1/16W F	
			R112	87-022-243-080		C-RES,U 15K-1/16W F	
			R133	87-022-247-080		C-RES,U 22K-1/16W F	
PWB,MAIN C.B			R134	87-022-247-080		C-RES,U 22K-1/16W F	
	C101	87-012-275-080	C-CAP,U 1200P-50 B	R137	87-022-225-080		C-RES,U 2.7K-1/16W F
	C102	87-012-275-080	C-CAP,U 1200P-50 B	R138	87-022-225-080		C-RES,U 2.7K-1/16W F
	C103	87-012-275-080	C-CAP,U 1200P-50 B				
	C104	87-012-275-080	C-CAP,U 1200P-50 B	R713	87-022-245-080		C-RES,U 18K-1/16W F
	C105	87-016-114-080	C-CAP,U 0.01-25 B	R714	87-022-245-080		C-RES U 18K-1/16WF<307,800>
				S101	87-A90-050-010		SW, SL 2-2-2 NS (BLK)
	C106	87-016-114-080	C-CAP,U 0.01-25 B	S201	87-036-379-180		C-SW,SL1-1-2 SS-350-A12B-C-T
	C107	87-010-501-010	CAP,E 47-4V	S301	87-A90-050-010		SW, SL 2-2-2 NS (BLK)
	C108	87-010-501-010	CAP,E 47-4V				
C111	87-015-688-010	CAP,E 4.7-35 M K S<307,800>	S701	87-A90-665-280		C-SW,TACT LS7A2M	
C112	87-012-142-080	C-CAP, S 0.33-16	S702	87-A90-665-280		C-SW,TACT LS7A2M	
			S703	87-A90-665-280		C-SW,TACT LS7A2M	
C113	87-010-805-080	C-CAP, S 1-16	S704	87-A90-665-280		C-SW,TACT LS7A2M	
C114	87-012-141-080	C-CAP,0.22-16 Z F	S705	87-036-379-180		C-SW,SL1-1-2 SS350	
C117	87-012-278-080	C-CAP,U 2200P-50 B					
C118	87-012-278-080	C-CAP,U 2200P-50 B	S706	87-A91-365-080		C-SW,PUSH 1-1-1 SPVG21	
C119	87-A10-263-080	C-CAP,U 0.1-16 Z F	SFR401	87-A91-653-040		C-SFR,K 33K H RH03AEC	
C120	87-A10-263-080	C-CAP,U 0.1-16 Z F	TH401	87-A91-675-080		C-THMS,NTH5G16P39B472K 07TH	
C121	87-010-502-010	CAP,E 100-4	VR101	87-A91-650-010		VR,RTRY 50KCX2 H XV0102G	
C122	87-010-503-010	CAP,E 220-4 GAS	X701	87-A70-241-010		VIB,CER 4.000MHZ CSTS0400MG03	
C123	87-010-502-010	CAP,E 100-4 M K S<307,800>					
C124	87-010-502-010	CAP,E 100-4 M K S<307,800>					
C125	87-010-501-010	CAP,E 47-4V					
C201	87-016-461-080	C-CAP,S 0.47-16 Z F					
C202	87-016-461-080	C-CAP,S 0.47-16 Z F					
C203	87-A10-263-080	C-CAP,U 0.1-16 Z F					
C204	87-A10-263-080	C-CAP,U 0.1-16 Z F					
C205	87-012-282-080	C-CAP, U 4700P-50					
C206	87-012-282-080	C-CAP, U 4700P-50					
C207	87-016-369-080	C-CAP,S 0.033-25 B K					
C208	87-016-369-080	C-CAP,S 0.033-25 B K					
C209	87-012-282-080	C-CAP, U 4700P-50					
C210	87-012-282-080	C-CAP, U 4700P-50					
C211	87-010-805-080	CAP, S 1-16					
C212	87-010-805-080	CAP, S 1-16					
C213	87-010-805-080	CAP, S 1-16					
C214	87-010-805-080	CAP, S 1-16					
C215	87-A10-263-080	C-CAP,U 0.1-16 Z F					
C216	87-A10-488-010	CAP,E 47-4 7L SR					
C303	87-010-196-080	C-CAP,0.1-25					
C304	87-010-196-080	C-CAP-,0.1-25					
C401	87-A10-201-080	C-CAP,S 0.33-16 K B					
C403	87-010-805-080	C-CAP,S 1-16 Z F					
C404	87-016-526-080	C-CAP,S 0.47-16 K B					
C405	87-010-992-080	C-CAP,S 0.047-25 B					
C406	87-A10-263-080	C-CAP,U 0.1-16 Z F					
C407	87-010-992-080	C-CAP,U 0.047-25 K B MK21					
C408	87-010-992-080	C-CAP,U 0.047-25 K B MK212					
C409	87-010-992-080	C-CAP,U 0.047-25 K B MK212					
C410	87-A10-263-080	C-CAP,U 0.1-16 Z F					

WIRING - 1 (MAIN)

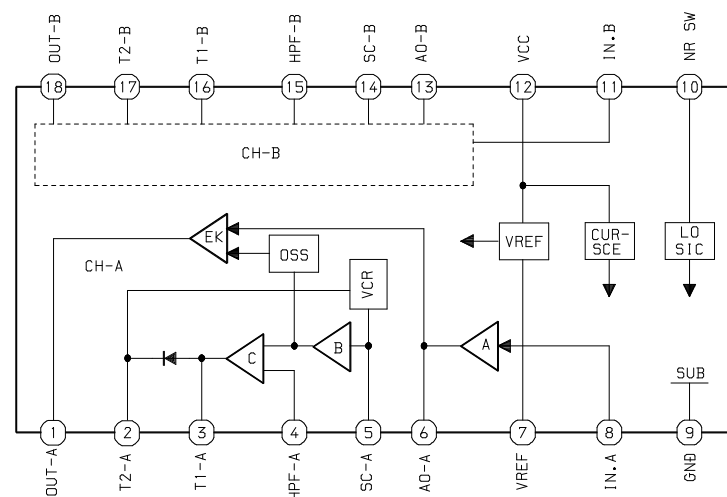


IC BLOCK DIAGRAM

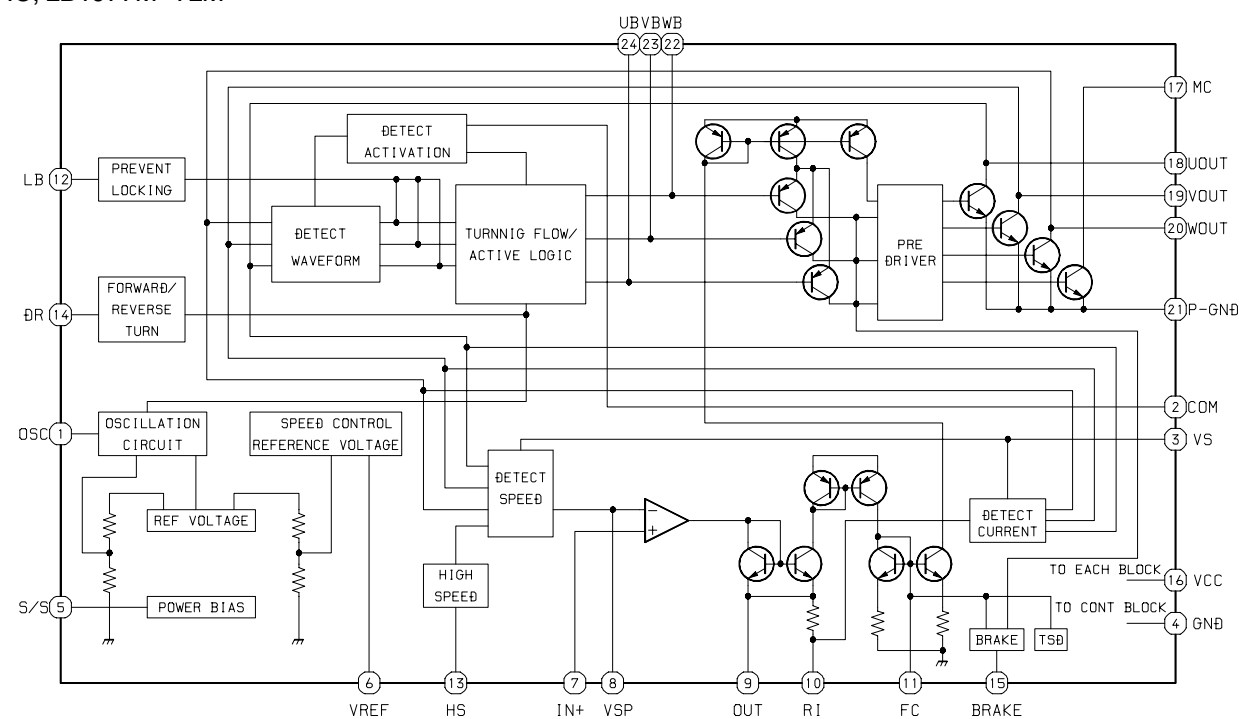
IC, TA2002FN



IC, AN7375NS



IC, LB1977M-TLM



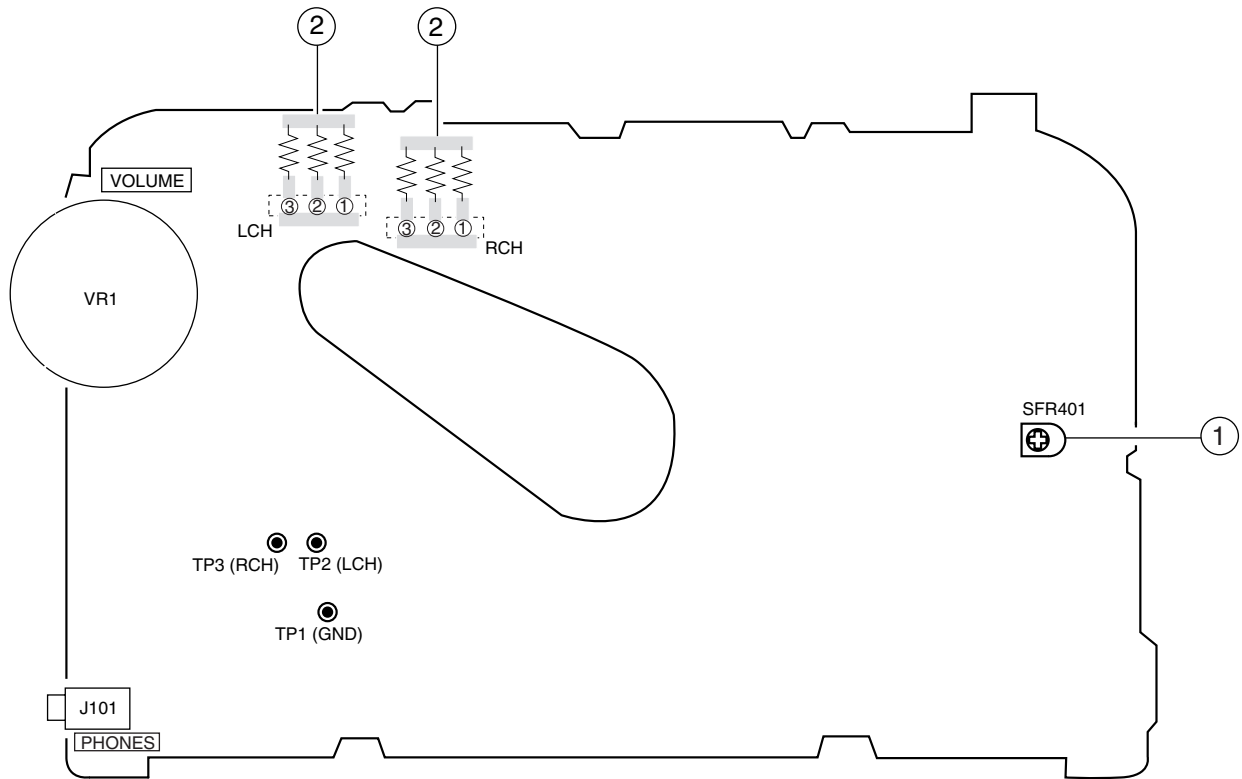
IC DESCRIPTION

IC, TMP47C443LDM-1B45(EL)

Pin No.	Pin Name	I/O	Description
1	XOUT	O	Connected to 4MHz crystal oscillator.
2	XIN	I	
3	RESET	I	Input reset signal.
4	EJECT SW	I	Input EJECT SW. "H": OFF, "L": ON.
5	BUZR	O	Output buzzer sound.
6	TEST	I	Input test mode. "H": Test ON.
7	HOLD	I	Input HOLD SW. "H": OFF, "L": ON.
8	NC	–	Connected to GND.
9	L.V.STOP	I	Input reducing voltage detection. "L": Mecha STOP.
10	MAIN IN	I	Input key from main unit (A/D).
11	REMOTE IN	I	Input key from remote controller (A/D).
12 ~ 13	NC	O	Not connected.
14	POWER ON	O	Output power for audio circuit. "L": ON.
15	GND	–	Connected to GND.
16	PHOTO OUT	O	Microcomputer detection P-SNSR level output pin.
17	LOAD CTL	O	Output for voltage supply checking. "L": Check.
18	MOT ON	O	Output motor activation. "L": ON.
19	MOT DIR	O	Output motor rotating direction. "L": Counterclockwise.
20	BRAKE	O	Output motor brake. "L": ON.
21	MOT HI	O	Output motor hi-speed activation. "L": ON.
22	MOT CH	I	Input motor activation detection.
23	NC	–	Connected to GND.
24	P-SNSR	I	Input sensor waveform.
25	C-SW	I	Input cassette tape detection. "H": Not exist, "L": Exist.
26	AUTO SW	I	Input AUTO SW. "H": AUTO operation, "L": NO AUTO operation.
27	F/R CTRL	O	Output FWD, REV control. "L": REV.
28	MUTE	O	Output muting. "L": ON.
29	WAKE UP	I	Input micro-computer OSC ON.
30	VDD	–	Power supply (+3V)

ADJUSTMENT

A MAIN C.B



<TAPE PLAYER SECTION>

1. Tape Speed Adjustment

- Settings :
- Test tape : TTA – 100 (Tape center)
 - Test point : Phones Jack (J101)
 - Adjustment location : SFR401
 - Dolby SW : OFF
 - Super Bass : OFF
 - Direction : FWD
 - Tape selector : NORM
 - Volume : MAX

Method : Play back the test tape and adjust SFR401 so that the frequency becomes $3015\text{Hz} \pm 10\text{Hz}$. Then confirm WOW is less than 0.55%.

Dolby Level Adjust List (For RCH and LCH)

Solder point			Increase level
①	②	③	
Solder	Open	Open	1.4 dB
Open	Solder	Open	2.0 dB
Open	Open	Solder	2.9 dB
Solder	Solder	Open	3.1 dB
Solder	Open	Solder	3.9 dB
Open	Solder	Solder	4.4 dB
Solder	Solder	Solder	5.2 dB

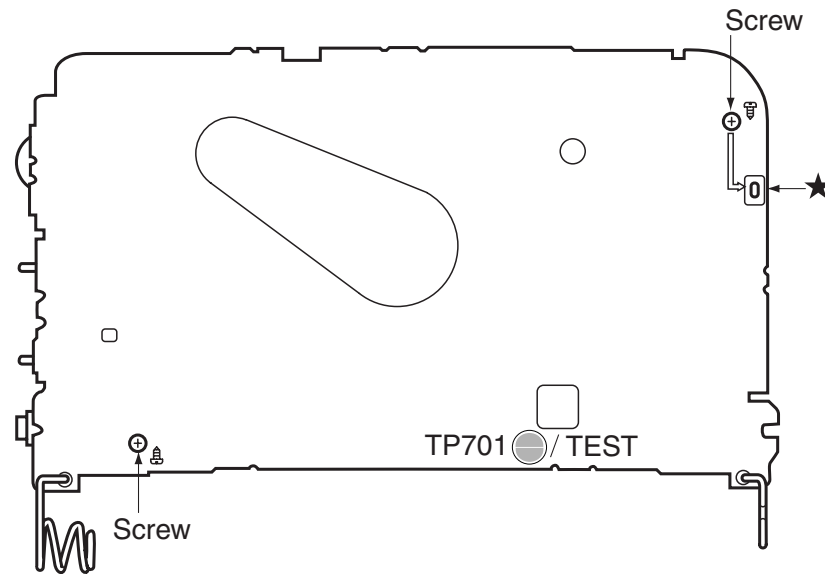
2. Dolby Level Adjustment

- Setting :
- Test tape : TTA – 200
 - Test point : TP1(LCH), TP2(RCH), TP3(GND)
 - Direction : FWD, REV
 - Tape selector : NORM
 - Dolby NR : OFF
 - Volume : MIN
 - Solder points : Dolby adjust point 1, 2, 3

Method : Connect $10\mu\text{F}/16\text{V}$ coupling capacitors between solder points and test equipment (connect the positive terminals to the solder points). Short the Dolby adjust point via solder as shown in the table so the Dolby level becomes $100\text{mV} \pm 1.0\text{dB}$ in both the forward and reverse directions.

TEST MODE

This model has a test mode function in the disassembled condition.



1. How to use the test mode:

- short the test land in the MAIN C.B.
- auto-stop function is not detected by micro-computer while test mode is active.

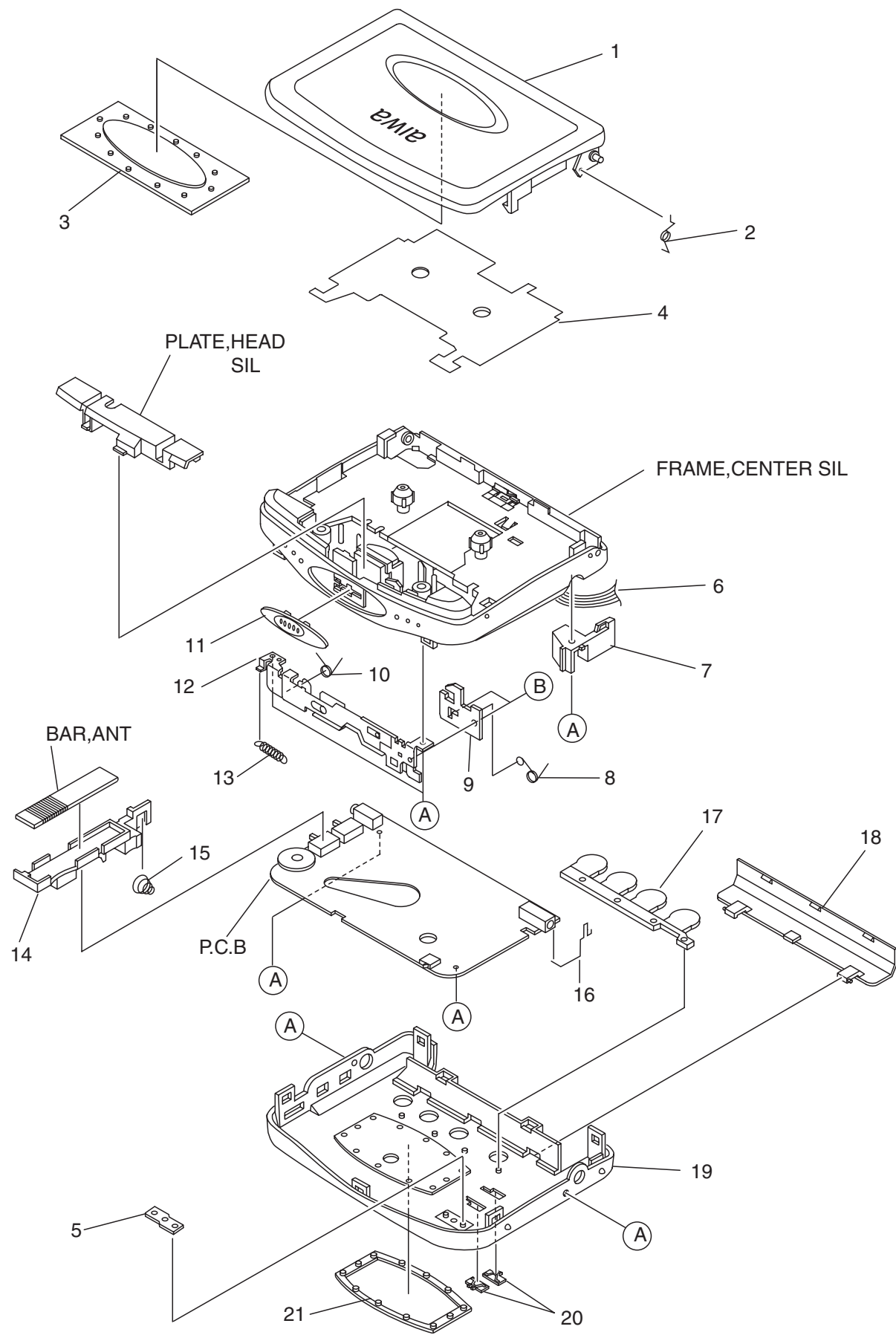
Note: Make sure that the test land is opened after the test mode is de-activated.

(Auto-stop function is not available with shorted land condition.)

2. How to disassemble the circuit board.

- removes the soldering part in the MAIN C.B (with the ★ mark).
- removes two screws.

MECHANICAL EXPLODED VIEW 1/1



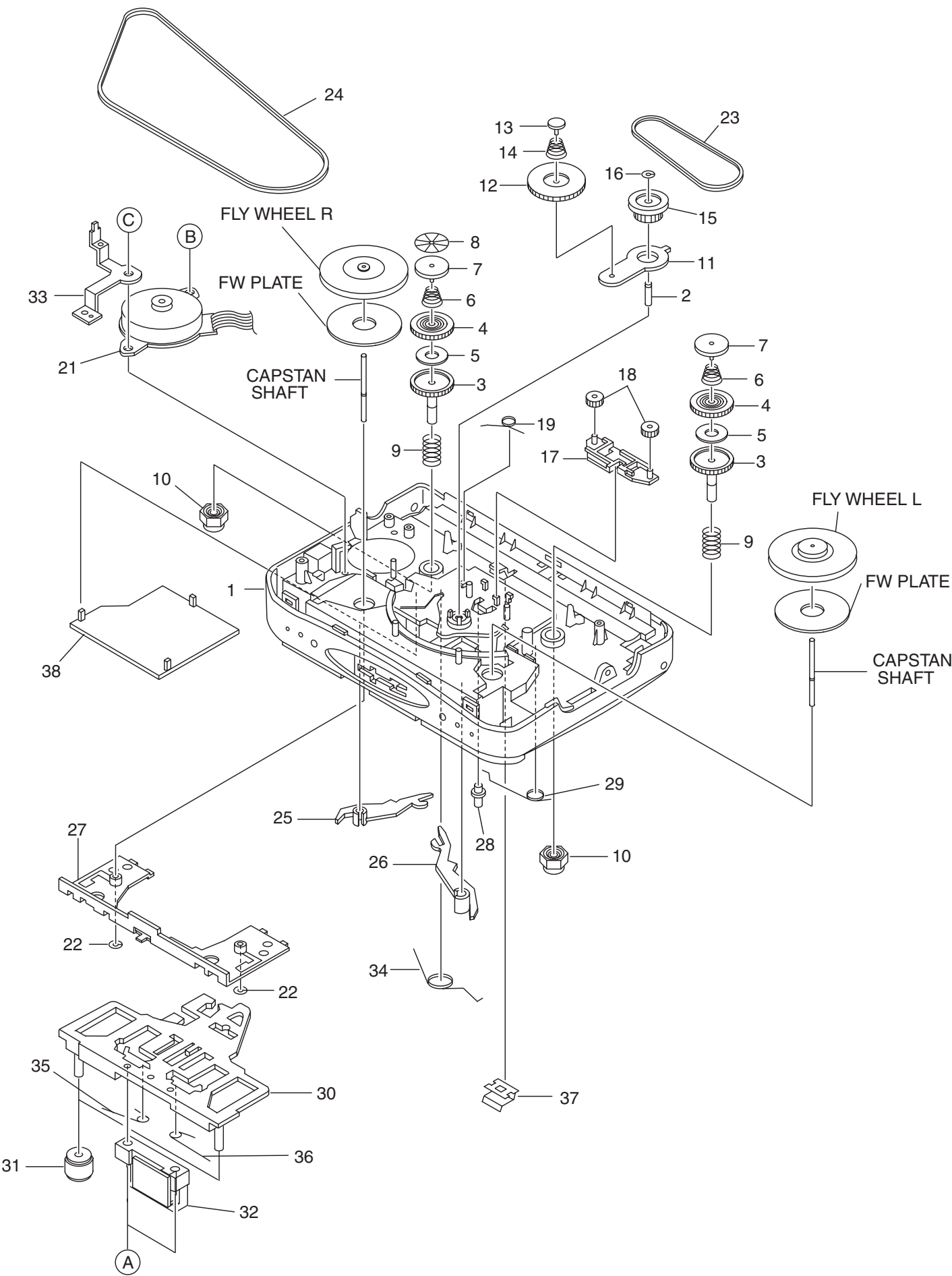
MECHANICAL PARTS LIST 1/1

REF.NO.	PARTNO.	KAN/NO	DESCRIPTION	REF.NO.	PARTNO.	KAN/NO	DESCRIPTION
1	8A-HKF-025-010		LID,CASS P BLU EG<307Y1BLMF,800Y1LMF>				
1	8A-HKF-026-010		LID,CASS P GRN EG<800Y1GMF,307Y1BGMF>				
1	8A-HKF-018-010		LID,CASS P SIL EG<207Y1SF,307Y1BSF,800Y1SF,700Y1SF,307Y1SF>				
2	8A-HR8-213-010		SPR-T,CASS				
3	8A-HR8-002-010		WINDOW,CASS				
4	8A-HKF-005-010		PLATE,GMX700<700Y1SF>				
4	8A-HKF-006-010		PLATE,GMX800<800Y1SF,800Y1LMF,800Y1GMF>				
5	8A-HKF-004-010		LENS,LED P				
6	8A-HR8-603-010		RBN-CORD,4P MOTOR				
7	8A-HR8-216-010		HLDR,DC				
8	8A-HR8-210-010		SPR-T,LOCK				
9	8A-HR8-208-010		PLATE,LOCK				
10	8A-HR8-211-010		SPR-T,RTRY				
11	8A-HR8-005-010		KNOB,SL OPEN				
12	8A-HR8-201-010		LEVER,ASSY REV				
13	8A-HR8-212-010		SPR-E,EJECT				
14	8A-HR8-215-010		HLDR,HP				
15	8A-HR8-218-010		BAT-CONTACT,M				
16	8A-HR8-217-010		BAT-CONTACT,P				
17	8A-HR8-009-010		KEY,CONT				
18	8A-HKF-020-010		LID,BAT BLU<307Y1BLMF,800Y1LMF>				
18	8A-HKF-023-010		LID,BAT GRN<800Y1GMF,307Y1BGMF>				
18	8A-HR8-008-010		LID,BAT SIL<207Y1SF,307Y1BSF,800Y1SF,700Y1SF,307Y1SF>				
19	8A-HKF-007-010		CABI,REAR 207 SIL EG<207Y1SF>				
19	8A-HKF-009-010		CABI,REAR 307 SIL EG<307Y1BSF,307Y1SF>				
19	8A-HKF-019-010		CABI,REAR 307 BLUE EG<307Y1BLMF>				
19	8A-HKF-022-010		CABI,REAR 307 GRN EG<307Y1BGMF>				
19	8A-HKF-010-010		CABI,REAR GMX700 SIL<700Y1SF>				
19	8A-HKF-027-010		CABI,REAR GMX800 BLU<800Y1LMF>				
19	8A-HKF-028-010		CABI,REAR GMX800 GRN<800Y1GMF>				
19	8A-HKF-011-010		CABI,REAR GMX800 SIL<800Y1SF>				
20	8A-HR8-011-010		KNOB,SL<207Y1SF,307Y1BSF,800Y1SF,700Y1SF,307Y1SF>				
20	8A-HKF-021-010		KNOB,SL BLU<307Y1BLMF,800Y1LMF>				
20	8A-HKF-024-010		KNOB,SL GRN<800Y1GMF,307Y1BGMF>				
21	8A-HKF-003-010		PANEL,REAR				
A	87-067-535-010		SCREW VT+1.4-3.5				
B	87-067-388-010		SCREW				

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		

TAPE MECHANISM EXPLODED VIEW 1 / 1



TAPE MECHANISM PARTS LIST 1/1

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION	REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
1	S8-HR8-003-010		FRAME CENTER	27	S8-505-260-000		SUB CHASSIS
2	S8-505-240-000		GEAR SHAFT	28	S8-505-160-000		REV SELECT
3	S8-505-070-000		REEL GEAR T	29	S8-505-190-000		SELECT SP
4	S8-505-080-000		CLUTCH GEAR	30	S8-505-020-000		HEAD BASE
5	S8-505-300-000		FELT	31	S7-000-080-000		PINCH ROLLER
6	S8-505-200-000		CLUTCH SP	32	S8-7A9-119-100		HEAD ASSY (PH8ZM-3)
7	S8-505-120-000		REEL GEAR BUSH	33	8A-HR8-219-010		PLATE EARTH MOT
8	S8-505-290-000		REFLECTING PLATE	34	S8-300-160-000		HEAD BASE SP
9	S8-505-210-000		BRACK TENSION SP	35	S8-300-170-000		PINCH SP FWD
10	S8-000-100-000		REEL CAP	36	S8-500-090-000		PINCH SP REV
11	S8-505-090-000		FWD GEAR PLATE	37	8A-HR8-214-010		SPR-P CASS
12	S8-505-060-000		FWD GEAR	38	S8-505-130-000		COVER
13	S8-505-250-000		GEAR PLATE PIN	A	S1-PB1-7X5-500		SCREW 1.7-5.5
14	S8-505-220-000		FWD GEAR SP	B	S3-PY1-7X2-500		SCREW 1.7-2.5
15	S8-505-050-000		CENTER GEAR	C	S3-PB1-7X3-000		SCREW
16	S1-2X2-5X0-25L		L CUT W				
17	S8-505-320-000		FF GEAR HOLDER				
18	S8-505-330-000		FF GEAR				
19	S8-505-310-000		GEAR HOLDER SP				
21	S8-7A9-156-310		MOTOR (IBIGB02)				
22	S1-2X2-5X0-11C		L CUT W				
23	SV-500-000-000		SUB BELT				
24	SV-190-000-000		MAIN BELT				
25	S8-505-100-000		FWD ARM				
26	S8-505-110-000		REV ARM				

ACCESSORIES / PACKAGE LIST

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
1	8A-HKF-905-010		IB,Y (EGFSI) F 307<307Y, 800Y>
1	8A-HKF-906-010		IB,Y (EDCPH) F 307<307Y, 800Y>
1	8A-HKF-915-010		IB,Y (EGFSI) F 207<207Y, 700Y>
1	8A-HKF-916-010		IB,Y (EDCPH) F 207<207Y, 700Y>
2	87-B30-255-010		HEADPHONE,HP-M007B(S)<207Y, 700Y>
2	87-B30-336-010		HEADPHONE,HP-M041(S)<307Y, 800Y>
3	8A-HKF-951-010		RC UNIT,RC307<307Y, 800Y>



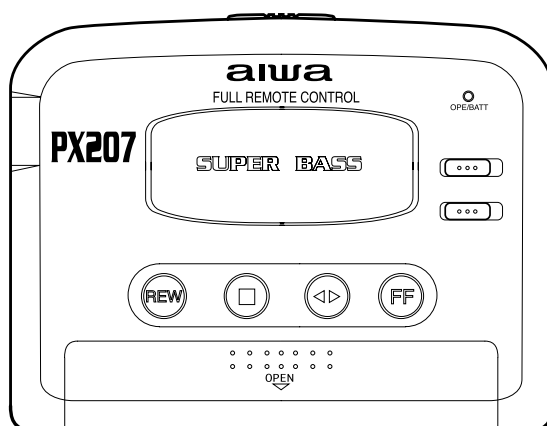
アイワ株式会社 〒110-8710 東京都台東区池之端1-2-11 ☎03(3827)3111 (代表)
AIWA CO.,LTD. 2-11, IKENOHATA 1-CHOME, TAITO-KU, TOKYO 110, JAPAN TEL:03 (3827) 3111

HS-GMX700 Y

HS-GMX800 Y

HS-PX207 Y

HS-PX307 Y



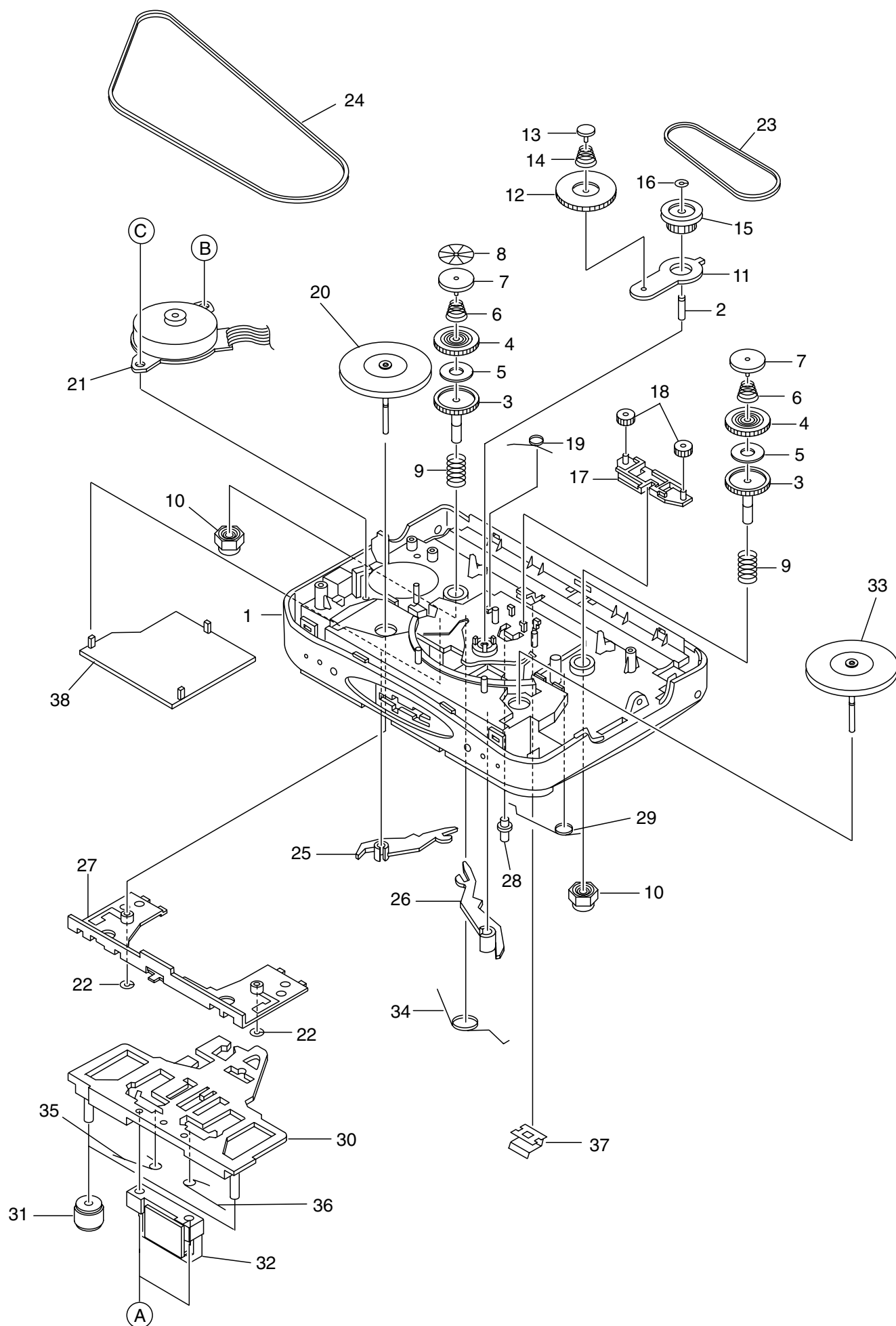
SERVICE MANUAL

STEREO RADIO
CASSETTE PLAYER

BASIC TAPE MECHANISM : CL-850-5 SIL

- This Correction Service Manual is issued because of some errors in Service Manual of Model Name HS-GMX700/800 (Y) / PX207/307 (Y), (S/M Code No. 09-001-425-6R1)

TAPE MECHANISM PARTS LIST 1 / 1



TAPE MECHANISM PARTS LIST 1 / 1

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
1	8A-HR8-003-010		FRAME CENTER
2	S8-505-240-000		GEAR SHAFT
3	S8-505-070-000		REEL GEAR T
4	S8-505-080-000		CLUTCH GEAR
5	S8-505-300-000		FELT
6	S8-505-200-000		CLUTCH SP
7	S8-505-120-000		REEL GEAR BUSH
8	S8-505-290-000		REFLECTING PLATE
9	S8-505-210-000		BRACK TENSION SP
10	S8-000-100-000		REEL CAP
11	S8-505-090-000		FWD GEAR PLATE
12	S8-505-060-000		FWD GEAR
13	S8-505-250-000		GEAR PLATE PIN
14	S8-505-220-000		FWD GEAR SP
15	S8-505-050-000		CENTER GEAR
16	S1-2X2-5X0-25L		L CUT W
17	S8-505-320-000		FF GEAR HOLDER
18	S8-505-330-000		FF GEAR
19	S8-505-310-000		GEAR HOLDER SP
20	S8-550-3K0-000		FLYWHEEL R ASSY
21	87-A91-563-010		MOTOR (IBIGB02)
22	S1-2X2-5X0-11C		L CUT W
23	SV-500-000-000		SUB BELT
24	SV-190-000-000		MAIN BELT
25	S8-505-100-000		FWD ARM

REF.NO.	PARTNO.	KANRI NO.	DESCRIPTION
26	S8-505-110-000		REV ARM
27	S8-505-260-000		SUB CHASSIS
28	S8-505-160-000		REV SELECT
29	S8-505-190-000		SELECT SP
30	S8-505-020-000		HEAD BASE
31	S7-000-080-000		PINCH ROLLER
32	87-A91-019-010		HEAD ASSY (PH8ZM-3)
33	S8-550-4K0-000		FLYWHEEL L ASSY
34	S8-300-160-000		HEAD BASE SP
35	S8-300-170-000		PINCH SP FWD
36	S8-500-090-000		PINCH SP REV
37	8A-HR8-214-010		SPR-P CASS
38	S8-505-130-000		COVER
A	S1-PB1-7X5-500		SCREW 1.7-5.5
B	S3-PY1-7X2-500		SCREW 1.7-2.5
C	S3-PB1-7X3-000		SCREW

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