

SERVICE MANUAL

STEREO CASSETTE DECK

BASIC TAPE MECHANISM : AZM-1 A3NM

- This Service Manual is the "Revision Publishing" and replaces "Simple Manual" FX-LM918 (Y), (S/M Code No. 09-014-444-7T1).

SPECIFICATIONS

<Cassette deck section>

Track format	4 tracks, 2 channels stereo
Frequency response	CrO ₂ tape : 50 Hz - 16000 Hz Normal tape : 50 Hz - 15000 Hz
Signal-to-noise ratio	60 dB (CrO ₂ tape peak level)
Recording system	AC bias
Heads	Recording / playback x 1, erase x 1

<General>

Dimensions (W x H x D)	210 x 82.5 x 238 mm
Weight	1.5 kg

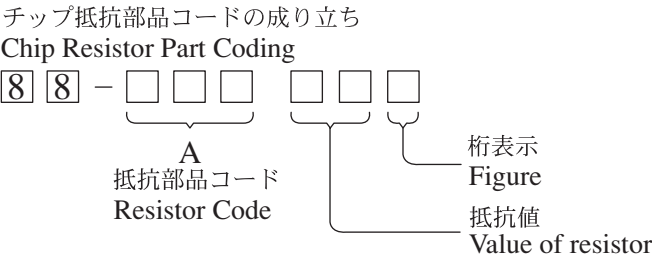
- Design and specifications are subject to change without notice.

ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC				C881	87-012-286-080		CAP, U 0.01-25
	87-020-454-010	IC,DN6851		C882	87-012-176-080		C-CAP,U 15P-50 J
	87-070-289-040	IC,BU2092F		C883	87-012-286-080		CAP, U 0.01-25
	87-001-982-010	IC,TA7291S		C884	87-010-495-040		CAP,E 2.2-50 M 5L SRE
	87-A20-783-040	C-IC,BA7762AFS		C886	87-010-759-080		C-CAP,U, 0.1-25F
TRANSISTOR				C888	87-012-199-080		C-CAP,U 220P-50 J CH
	87-A30-073-080	C-TR,RT1N 141C		C890	87-A12-067-080		CAP,E 330-16 SMG
	87-A30-240-080	TR,CSA1585BC		CN701	87-A61-039-010		CONN,19P V WHT 52328
	87-A30-083-080	TR,CSD1489B		CN702	87-A60-620-010		CONN,3P V 2MM JMT
	87-A30-087-080	C-FET,2SK2158		CN752	87-A60-062-010		CONN,05P V 9604S-05C
	87-A30-105-080	C-TR,RT1P 441C		CN851	87-A60-625-010		CONN,8P V 2MM JMT
	87-026-610-080	TR,KTC3198GR		CNA701	8B-CW1-620-010		WIRE,ASSY,19P V BK
	87-A30-075-080	C-TR,2SA1235F		CNA751	88-805-091-420		CONN ASSY,9P
	87-A30-076-080	C-TR,2SC3052F		FC752	88-905-081-110		FF-CABLE,5P 1.25
DIODE				L801	87-A50-049-010		COIL,TRAP 85K(COI)
	87-020-465-080	DIODE,1SS133		L802	87-A50-049-010		COIL,TRAP 85K(COI)
	87-A40-269-080	C-DIODE,MC2836		L851	87-007-342-010		COIL,OSC 85KHZ BIAS
MAIN C.B				SFR851	87-024-437-080		SFR,100K H RH063MC
	87-010-759-080	C-CAP,U, 0.1-25F		SFR852	87-024-437-080		SFR,100K H RH063MC
C702	87-016-044-040	CAP,E 100-16 GAS		KEY C.B			
C703	87-010-140-080	CAP,E 47-16 M BP EB		CNA702	88-805-031-690		CONN ASSY,3P 160MM
C731	87-010-759-080	C-CAP,U, 0.1-25F		CNA703	88-805-020-790		CONN ASSY,2P 70MM
C732	87-012-199-080	C-CAP,U 220P-50 J CH		CNA704	88-805-020-790		CONN ASSY,2P 70MM
C733	87-012-199-080	C-CAP,U 220P-50 J CH		S702	87-A91-024-180		SW,TACT KSHG611BT
C734	87-012-199-080	C-CAP,U 220P-50 J CH		S703	87-A91-024-180		SW,TACT KSHG611BT
C736	87-010-757-080	C-CAP,U, 0.047-25 Z F		S704	87-A91-024-180		SW,TACT KSHG611BT
C746	87-010-759-080	C-CAP,U, 0.1-25 Z F		S705	87-A91-024-180		SW,TACT KSHG611BT
C761	87-A12-067-080	CAP,E 330-16 SMG		S706	87-A91-024-180		SW,TACT KSHG611BT
C762	87-016-251-080	CAP,E 220-16 M SMG		S707	87-A91-024-180		SW,TACT KSHG611BT
C803	87-012-268-080	C-CAP,U 330P-50 B		S708	87-A91-024-180		SW,TACT KSHG611BT
C804	87-012-268-080	C-CAP,U 330P-50 B		S709	87-A91-024-180		SW,TACT KSHG611BT
C807	87-010-759-080	C-CAP,U, 0.1-25F		S710	87-A91-024-180		SW,TACT KSHG611BT
C811	87-010-787-080	CAP, U 0.022-25		LED-L C.B			
C812	87-010-787-080	CAP, U 0.022-25		C740	87-012-286-080		C-CAP,U 0.01-25 K B
C815	87-012-277-080	CHIP CAP,U 1800P-50 K B		CN704	87-A60-619-010		CONN,2P V 2MM JMT
C816	87-012-277-080	CHIP CAP,U 1800P-50 K B		D702	87-A40-678-010		LED,SELU1E10CXM BLUE-DEF
C821	87-A10-828-080	C-CAP,U 0.33-6.3 K B		LED-R C.B			
C822	87-A10-828-080	C-CAP,U 0.33-6.3 K B		C739	87-012-286-080		C-CAP,U 0.01-25 K B
C824	87-010-553-040	CAP,E 47-16 M 5L SRE		CN703	87-A60-619-010		CONN,2P V 2MM JMT
C825	87-A10-759-040	CAP,E 330-6.3 SRM		D701	87-A40-678-010		LED,SELU1E10CXM BLUE-DEF
C827	87-010-491-040	CAP,E 0.22-50 M 5L SRE		DECK C.B			
C828	87-010-491-040	CAP,E 0.22-50 M 5L SRE		CON1	87-009-352-010		CONN,9P H WHT PH
C832	87-010-759-080	C-CAP,U, 0.1-25F		M1	87-A90-343-010		MOT,SHU2R 70
C835	87-010-494-040	CAP,E 1-50 M 5L SRE		SFR1	87-024-581-010		SFR,3.3K H KVSP637A
C836	87-010-494-040	CAP,E 1-50 M 5L SRE		SOL2	82-ZM3-628-010		SOL ASSY,23 SO
C837	87-010-759-080	C-CAP,U, 0.1-25F		SW2	87-A90-248-010		SW,MICRO ESE11SH2CXQ
C839	87-010-759-080	C-CAP,U, 0.1-25F		SW3	87-A90-248-010		SW,MICRO ESE11SH2CXQ
C840	87-010-759-080	C-CAP,U, 0.1-25F		SW4	87-A90-248-010		SW,MICRO ESE11SH2CXQ
C847	87-012-337-080	C-CAP,U 56P-50 CH		SW5	87-A90-248-010		SW,MICRO ESE11SH2CXQ
C848	87-012-337-080	C-CAP,U 56P-50 CH		SW6	87-A90-248-010		SW,MICRO ESE11SH2CXQ
C851	87-012-270-080	C-CAP,U 470P-50 K B		W1	86-ZM4-601-110		RBN-CORD,4P-300MM
C852	87-012-270-080	C-CAP,U 470P-50 K B		HEAD C.B			
C854	87-012-271-080	C-CAP,U 560P-50 K B		85-ZM3-601-210			PWB,FLEX I
C855	87-012-274-080	CHIP CAP,U 1000P-50B		CNA851	8B-CW1-624-010		CONN ASSY,8P 250MM
C856	87-010-553-040	CAP,E 47-16 M 5L SRE		DRIVE C.B			
C857	87-012-286-080	CAP, U 0.01-25 K B		CN1	86-NFZ-675-010		CONN,5P H 6216-11H
C858	87-012-279-080	C-CAP,U 2700P-50 B		M1	87-045-305-010		MOT,RF-500TB
C859	87-012-279-080	C-CAP,U 2700P-50 B		S2	87-A91-662-010		SW,PUSH 1-1-1 MPU11244MLB0
C860	87-012-279-080	C-CAP,U 2700P-50 B		W2	8Z-ZG4-614-010		F-CABLE,2P 130MM LED
C870	87-010-759-080	C-CAP,U, 0.1-25F					
C873	87-A10-781-080	C-CAP,U 0.15-10 K B					
C874	87-A10-781-080	C-CAP,U 0.15-10 K B					
C880	87-012-267-080	C-CAP,U 270P-50 B					

REF.NO.	PART NO.	KANRI NO.	DESCRIPTION
FRAME C.B			
S1	87-A90-948-010	SW,LVR 2-1-2	MPU11263MLB0

○チップ抵抗部品コード／CHIP RESISTOR PART CODE



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
				外形／Form	L	W	t	Resistor Code : A
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



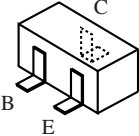
E C B

CSA1585BC
KTC3198GR



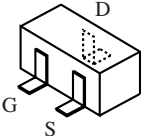
E C B

CSD1489B



C B E

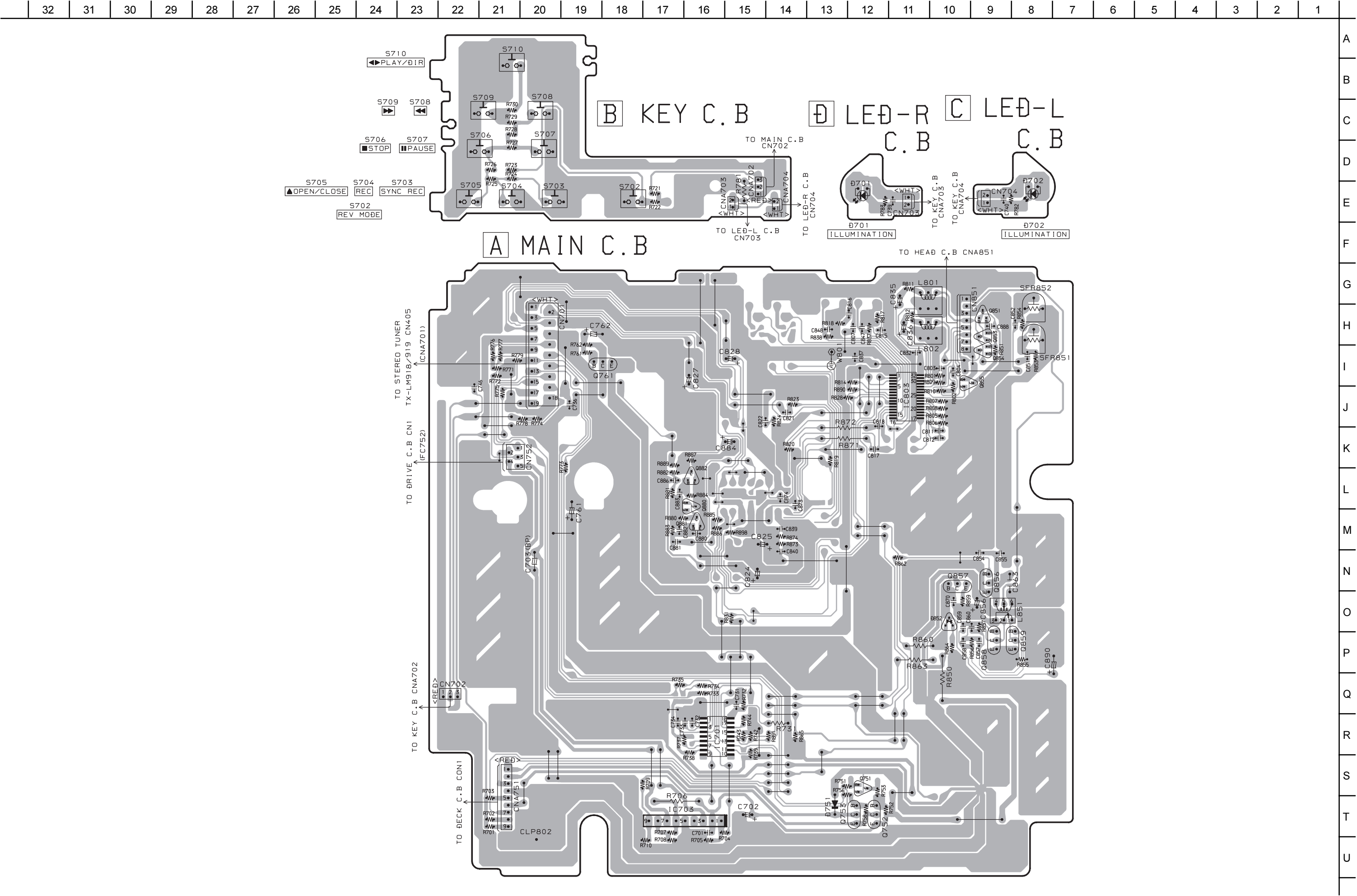
2SA1235F
2SC3052F
RT1N141C
RT1P441C



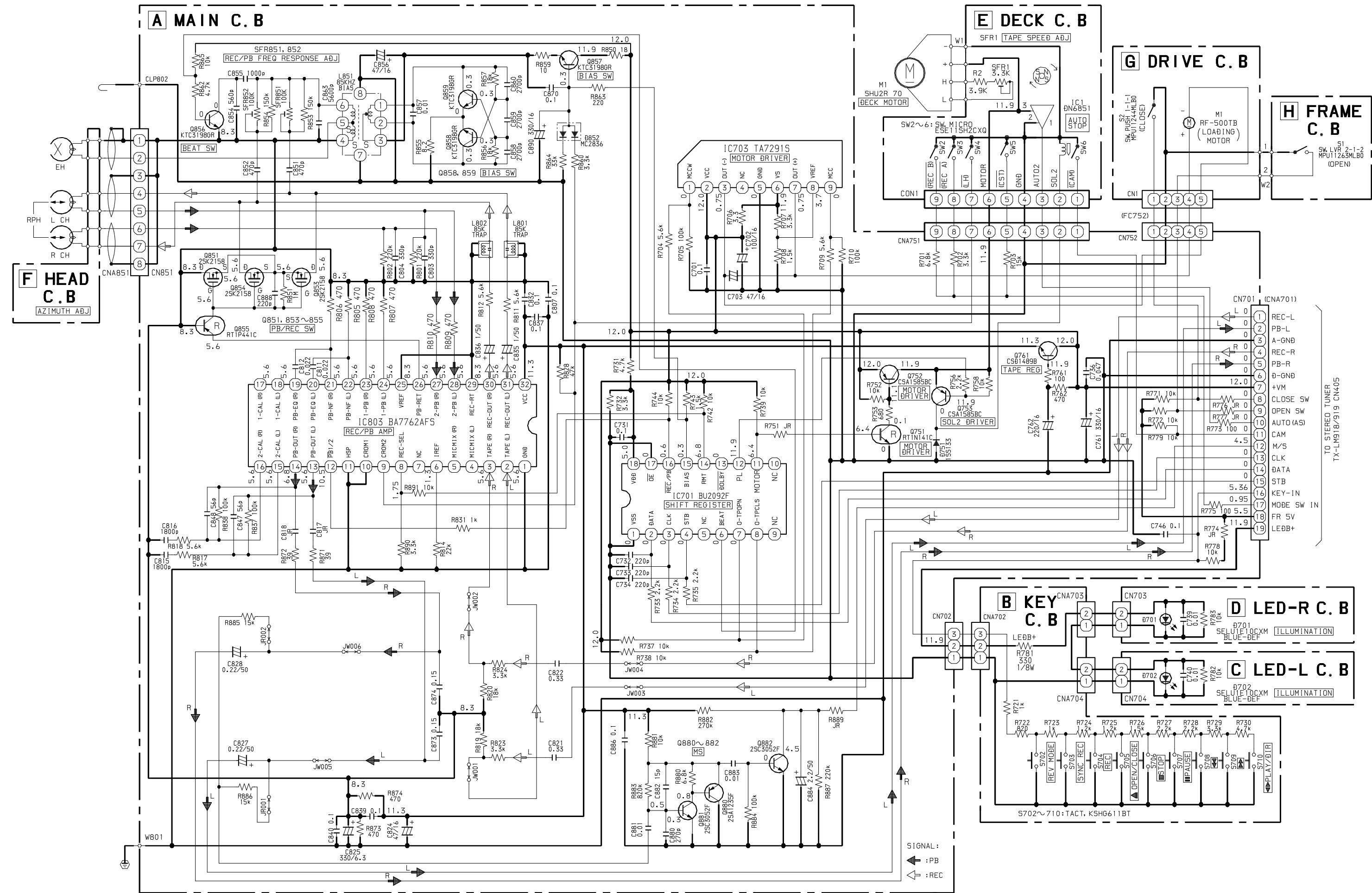
G S D

2SK2158

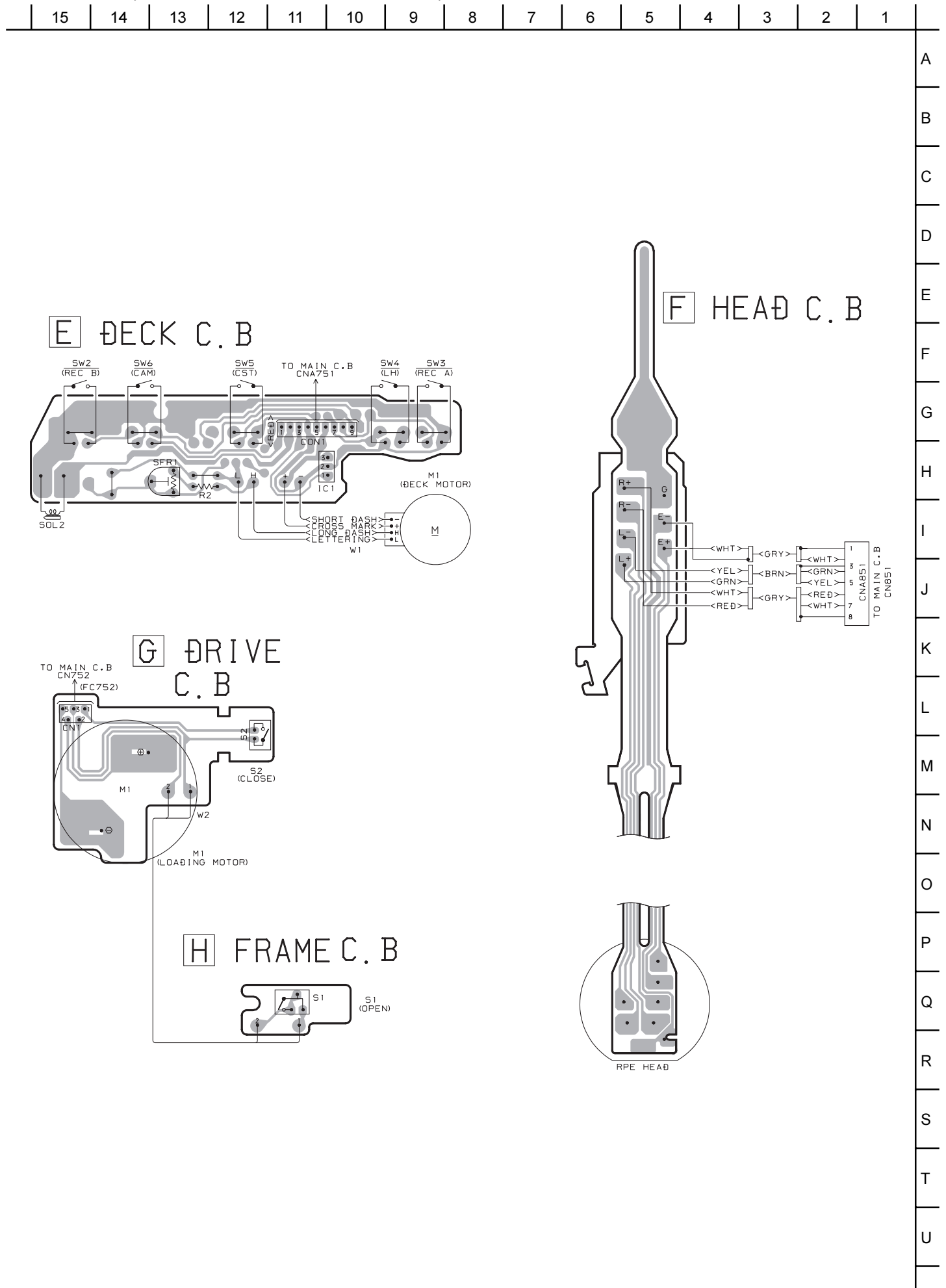
WIRING – 1 (MAIN / KEY / LED – L / LED – R)



SCHEMATIC DIAGRAM (MAIN / KEY / LED – L / LED – R / DECK / HEAD / DRIVE / FRAME)

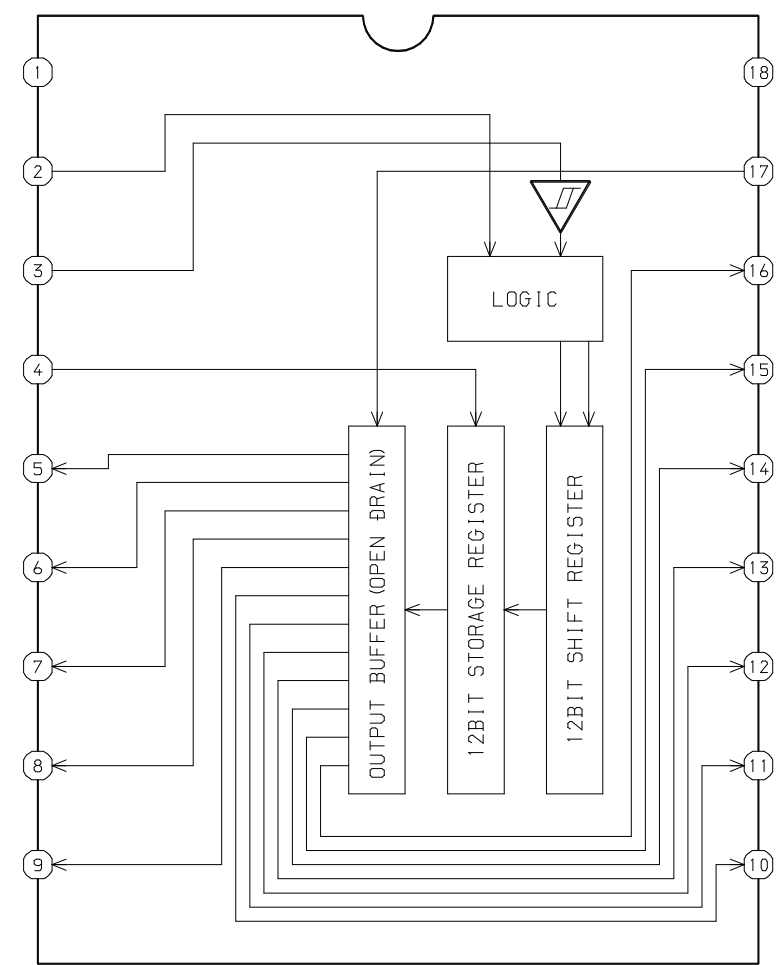


WIRING – 2 (DECK / HEAD / DRIVE / FRAME)

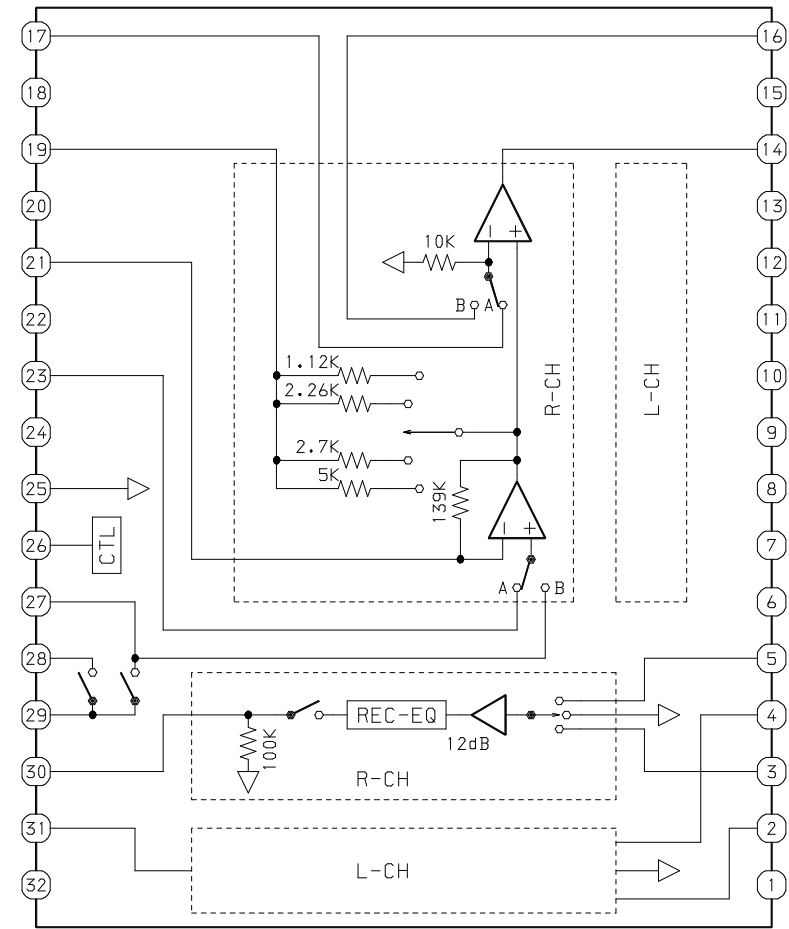


IC BLOCK DIAGRAM

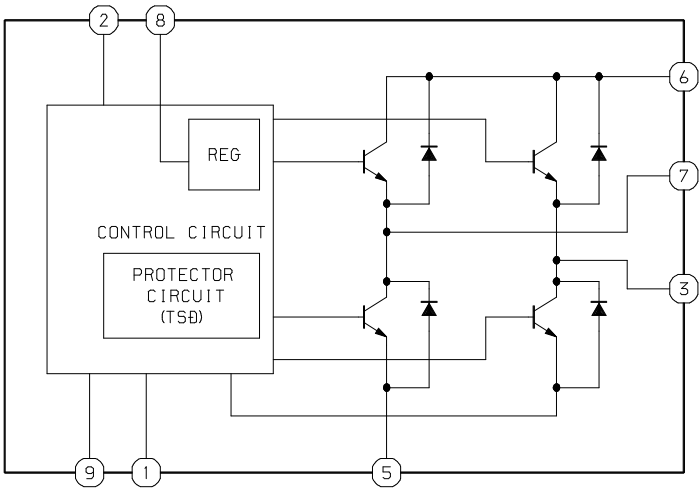
IC, BU2092F



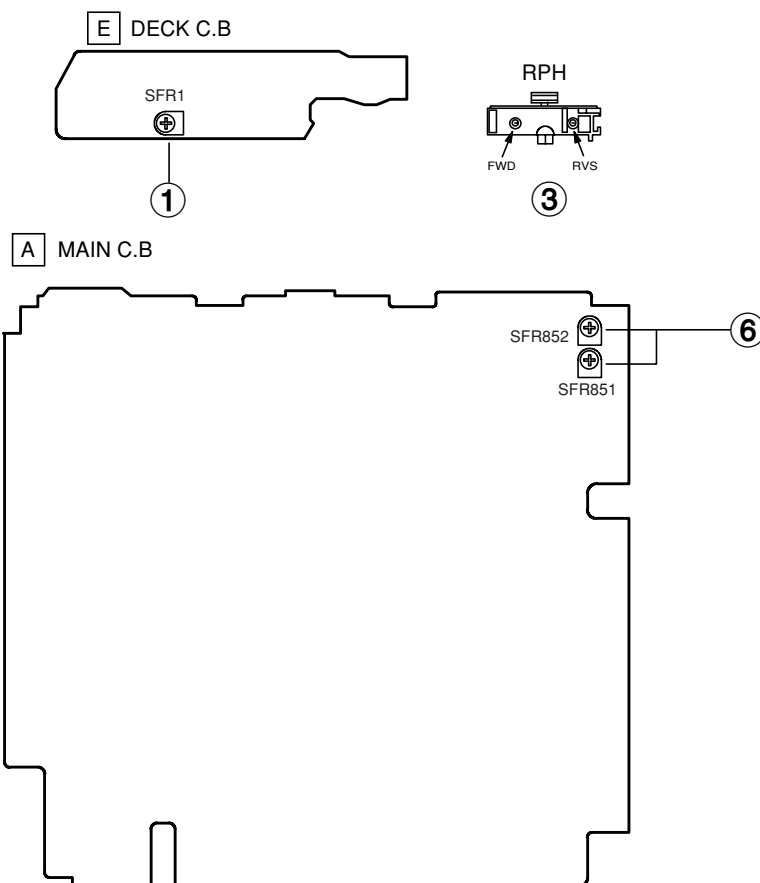
IC, BA7762AF5



IC, TA7291S



ELECTRICAL ADJUSTMENT

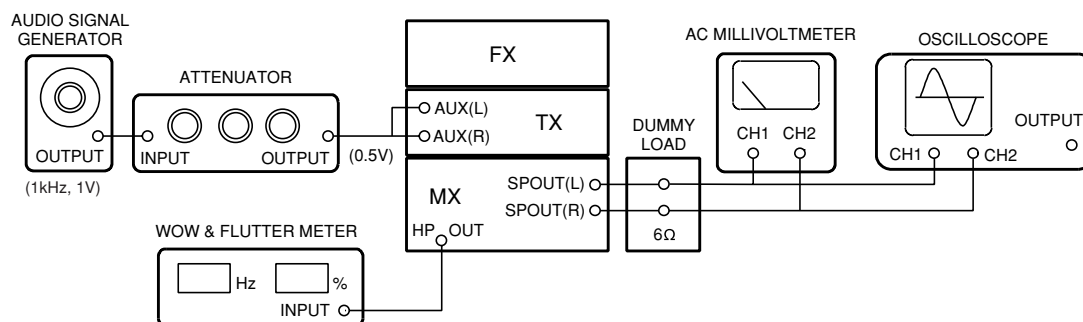


<DECK SECTION>

Prepare the following before adjusting the deck.

Preparation

- Measuring Device: Audio Signal Generator / Attenuator / Wow & Flutter Meter (Frequency Counter) / Oscilloscope / Millivoltmeter / Dummy Load (6Ω).
- 1) Connect the set (FX, MX, TX) to the measuring device as shown in the following diagram.
 - 2) Output 1V(1kHz) from the generator and adjust the attenuator until AUX IN becomes 0.5V.
 - 3) Set AUX for FUNCTION and adjust the volume of the MX part until the millivoltmeter value becomes 2V.
- * Switch off all the T-BASS, BBE, EQ, Q-SURROUND.



1. Adjusting Tape Speed

Requirements

Test Tape: TTA-100 (3kHz)

Test Point: HP OUT

Adjustment Point: SFR 1

- 1) Insert the test tape (TTA-100), FWD play back the centre of the tape and adjust the SFR1 until it becomes $3,000\text{Hz} \pm 10\text{Hz}$.
- 2) RVS playback and check that $\pm 45\text{Hz}$ is added according to the FWD speed.

2. Checking WOW & FLUTTER

Requirements

Same as number 1.

- 1) Set the indicator to JIS and the mode to W RMS (WTD) of the WOW & FLUTTER.
- 2) Playback the centre of the test tape (TTA-100) and check that it is below 0.15%.

3. Adjusting Head Azimuth

Requirements

Test Tape: TTA-300 (10kHz)

Test Point: SP OUT (Lch/Rch)

Adjustment Point: Head Azimuth Screws

- 1) Set the V mode of the oscilloscope to ADD.
- 2) Insert the test tape (TTA-300), FWD playback the centre of the tape and adjust, using the head azimuth screws until the waveform of the oscilloscope has reached the maximum when playing back at 10kHz.
- 3) Reverse the tape, RVS playback and adjust, using the head azimuth screws until the waveform of the oscilloscope has reached the maximum.
- 4) After the adjustment, bond lock (1600B) the screws.

4. Checking Playback Frequency Reponse

Requirements

Test Tape: TTA-300 (315Hz/10kHz)

Test Point: SP OUT (Lch/Rch)

- 1) Insert the test tape (TTA-300) and playback 315Hz and 10kHz.
- 2) Use the 315Hz output level as a standard, check that the 10kHz level is within $\pm 3\text{dB}$.

5. Checking Playback Sensitivity

Requirements

Test Tape: TTA-200 (400Hz)

Test Point: SP OUT (Lch / Rch)

- 1) Insert the tape (TTA-200) and playback.
- 2) Check that the output level is within $2.8\text{V} \pm 3\text{dB}$.

6. Adjusting the REC / PB Frequency Response

Requirements

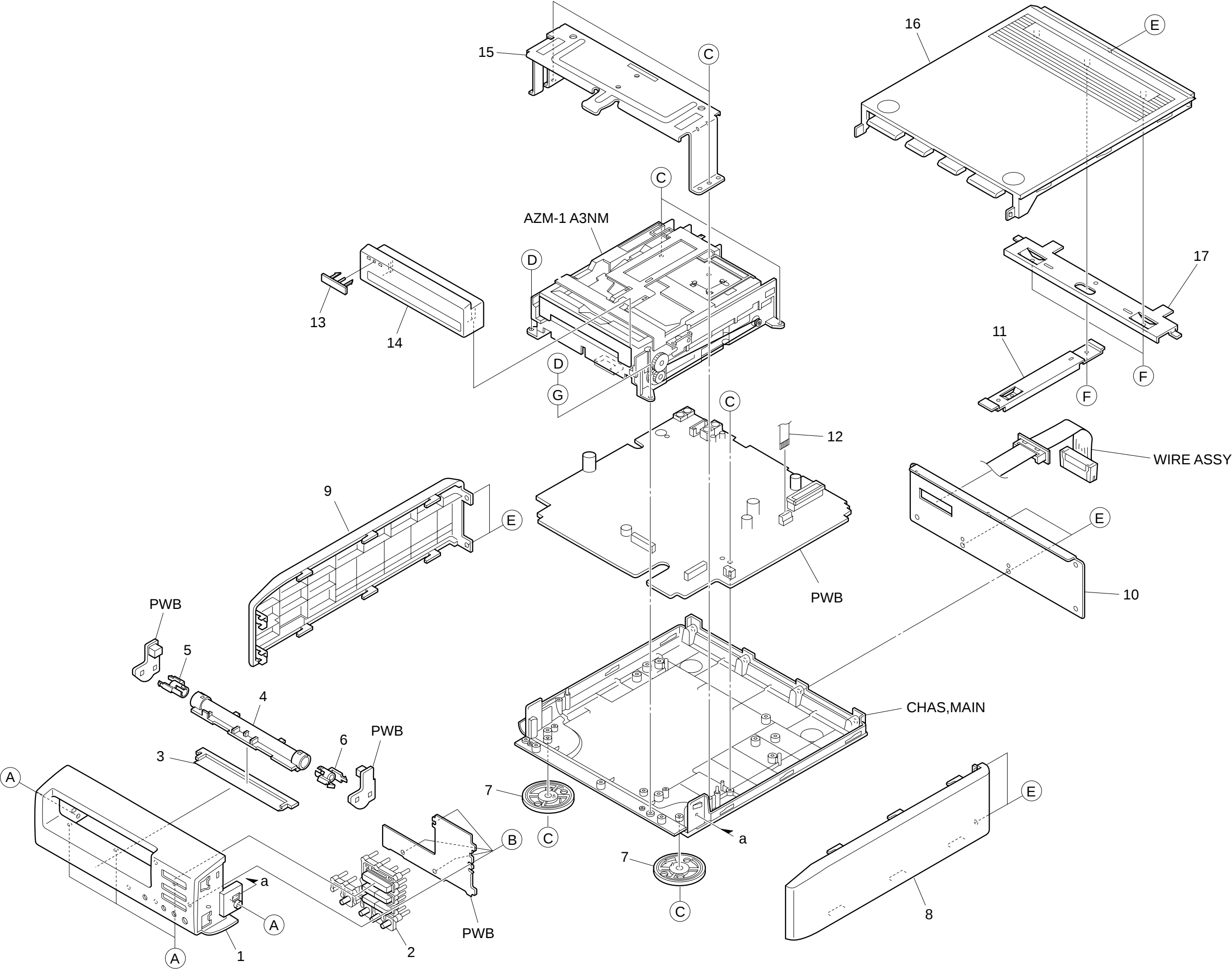
Test Tape: TTA-602

Test Point: SP OUT (Lch / Rch)

Input Point: AUX (1kHz / 10kHz)

Adjustment Point: SFR851 (Lch), SFR852 (Rch)

- 1) Attenuate the output of the attenuator by 20dB to prepare for No.3
- 2) Insert the test tape (TTA-602) and record 1kHz and 10kHz alternately from AUX.
- 3) Playback the tape, adjust SFR851 (Lch) / SFR852 (Rch) until the playback output level of 10kHz is within $\pm 0.5\text{dB}$ according to the standard when the playback output level of 1kHz is used as the standard.



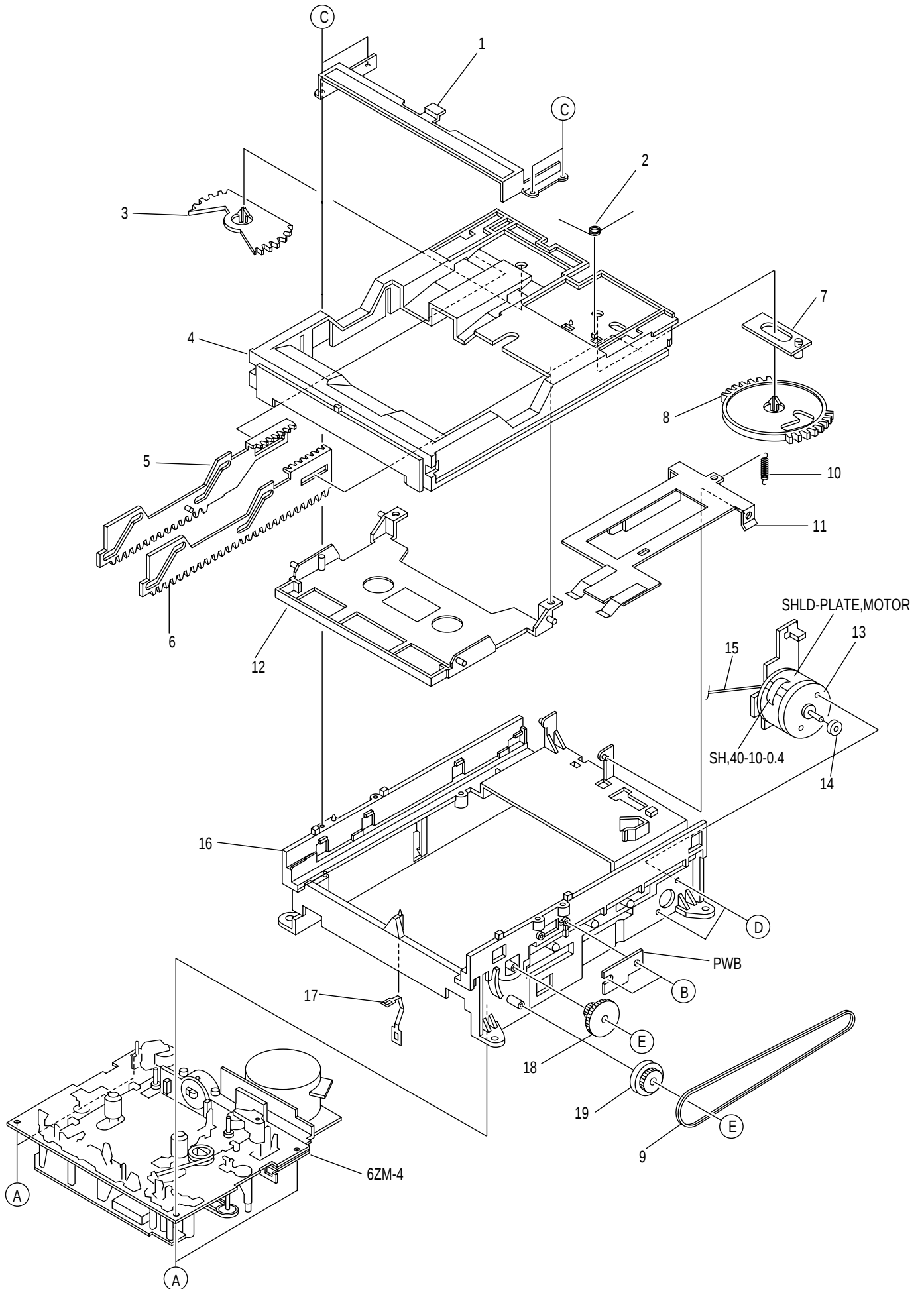
MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8B-CW1-001-010		CABI,FR TAPE
2	8B-CW1-004-010		KEY,PLAY TAPE
3	8B-CE1-018-010		REFLECTOR,FR
4	8B-CE1-208-010		GUIDE,LED CNT
5	8Z-CE3-203-010		GUIDE,LED L
6	8Z-CE3-204-010		GUIDE,LED R
7	8B-CE1-016-010		FOOT,DIA40 H4
8	8B-CF1-006-010		PANEL,SIDE R
9	8B-CF1-005-010		PANEL,SIDE L
10	8B-CW1-005-010		PANEL,REAR TAPE
11	8B-CE1-212-010		PLATE,TOP A
12	88-905-081-110		FF-CABLE, 5P 1.25
13	8Z-CC3-007-010		BADGE,AIWA 27.5 ABS SIL
14	8B-CW1-006-010		PANEL ASSY,TRAY TAPE
15	8B-CF1-205-010		PLATE,TOP
16	8B-CF1-011-010		PANEL,TOP
17	8B-CE1-213-010		PLATE,TOP B
A	87-721-096-410		QT2+3-10 GLD
B	87-B10-294-010		BVT2+2.6-8
C	87-067-703-010		TAPPING SCREW, BVT2+3-10
D	87-067-579-010		TAPPING SCREW, BVT2+3-8
E	87-067-761-010		BVT2+3-10 BLK
F	87-067-684-010		BVT2+2.6 W/O SLOT
G	87-067-130-010		W-F,3.2-8-1 W/ADH

COLOR NAME TABLE

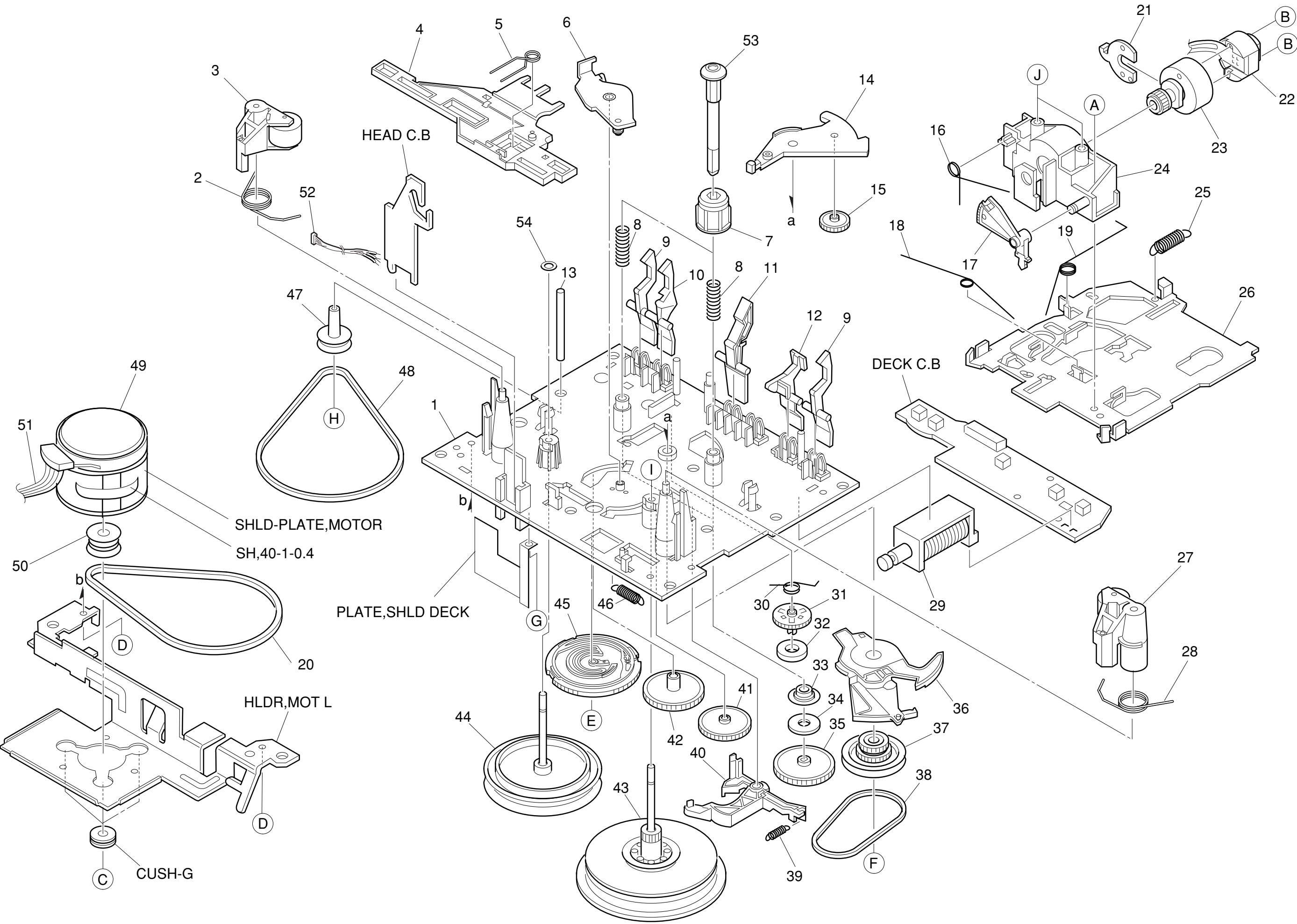
Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange	PT	Transparent Pink
LA	Aqua Blue	GL	Light Green	HT	Transparent Gray

TAPE MECHANISM EXPLODED VIEW 1 / 2 < AZM-1 A3NM >



TAPE MECHANISM PARTS LIST 1 / 2 < AZM-1 A3NM >

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8A-ZM1-214-010		PLATE, F STOPPER
2	8A-ZM1-223-010		SPR-T, LOCK F
3	8A-ZM1-209-010		GEAR, SLIDE B
4	8A-ZM1-203-410		FRAME, MAIN
5	8A-ZM1-215-210		LEVER ASSY, SLIDE L
6	8A-ZM1-217-010		LEVER ASSY, SLIDE R
7	8A-ZM1-212-010		LEVER, LOCK F
8	8A-ZM1-208-110		GEAR, SLIDE A
9	8A-ZM1-230-210		BELT, BASE
10	8A-ZM1-220-010		SPR-E, CLAMP
11	8A-ZM1-216-310		PLATE ASSY, CLAMP
12	8A-ZM1-204-110		TRAY, CASSETTE
13	87-045-305-010		MOTOR, RF-500TB DC-5V (2MA)
14	86-ZL1-210-010		PULLEY, MOT
15	8Z-ZG4-614-010		F-CABLE, 2P 130MM LED
16	8A-ZM1-202-110		BASE,
17	86-ZL1-214-010		SPR-P, CASS
18	8A-ZM1-207-110		GEAR, FRAME
19	8A-ZM1-213-110		GEAR, PULLEY
A	87-067-660-010		TAPPING SCREW, BVT2+3-8
B	88-ZG5-302-010		S-SCREW, 8ZG5+2-4 W/O
C	88-ZG5-317-010		S-SCREW, 8ZG5S+2-4 W/O
D	87-251-072-410		U+2.6-5
E	8A-ZM1-240-010		S-SCREW, GEAR F/P



TAPE MECHANISM PARTS LIST 2 / 2 < 6ZM-4 R6NM >

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	82-ZM1-358-010		CHAS ASSY,FPC	36	82-ZM1-224-410		LVR,FR
2	82-ZM1-258-210		SPR-T,PINCH L	37	82-ZM3-333-310		SLIP DISK ASSY 2
3	82-ZM1-363-010		LEVER,ASSY PINCH LD	38	82-ZM1-338-110		BELT,FR 4
4	82-ZM1-266-310		LVR,DIR	39	82-ZM1-305-210		SPR-E,TRIG 2
5	82-ZM1-214-010		SPR-T,DIR	40	82-ZM1-227-310		LVR,TRIG
6	82-ZM1-333-210		PLATE,LINK2	41	82-ZM1-225-210		GEAR,FR
7	86-ZM1-203-010		CAP,REEL	42	82-ZM1-226-010		GEAR,REW
8	86-ZM1-221-010		SPR-C,BT 2L	43	86-ZM4-214-010		FLY-WHL ASSY,R4W
9	82-ZM1-240-110		LVR,REC(*)	44	86-ZM4-215-010		FLY-WHL ASSY,L4W
10	82-ZM1-241-310		LVR,MC	45	82-ZM1-221-310		GEAR,CAM(*)
11	82-ZM1-242-010		LVR,CAS	46	82-ZM1-255-310		SPR-E,LVR DIR
12	82-ZM1-243-010		LVR,STOP	47	82-ZM3-335-310		PULLEY,COUPLER M3
13	82-ZM3-339-110		SHAFT,COUPLER N3	48	86-ZM1-206-010		BELT,MAIN L
14	82-ZM1-222-310		LVR,PLAY(*)	49	87-A90-343-010		MOT,SHU2R 70
15	82-ZM1-223-010		GEAR,PLAY	50	82-ZM3-221-210		PULLEY,MOT 2M
16	82-ZM3-353-010		SPR-T,HEAD 2	51	86-ZM4-601-110		RBN-CORD,4P 300MM
17	82-ZM1-210-110		GEAR,H T	52	8B-CW1-624-010		CONN ASSY,8P 250MM
18	82-ZM1-269-210		SPR-T,BRG	53	86-ZM1-202-010		SHAFT,REEL
19	82-ZM1-219-110		SPR-T,LINK	54	82-ZM1-288-010		SH,1.63-3.2-0.5 SLT
20	86-ZM1-217-110		BELT,MOT	A	85-ZM3-202-010		S-SCREW,TG
21	82-ZM1-314-110		PLATE,HEAD	B	80-ZM6-207-010		V+1.6-7
22	87-A90-367-110		HEAD,RPH YK56R-BF414 FPC	C	82-ZM3-318-110		S-SCREW W,MOTOR M2
23	82-ZM1-208-310		HLDR,HEAD	D	87-067-178-010		VTT+2.6-3
24	82-ZM1-207-910		GUIDE,TAPE	E	87-B10-008-010		W-P,2.08-8-0.4-SLIP
25	82-ZM1-218-010		SPR-E,HB	F	82-ZM3-334-010		PW 2.16-6-0.4
26	82-ZM1-206-910		CHAS,HEAD	G	82-ZM3-222-010		S-SCREW,SHILD PLATE
27	82-ZM1-362-010		LEVER,ASSY PINCH RD	H	87-B10-043-010		W-P,0.99-4-0.25 SLT
28	82-ZM1-259-210		SPR-T,PINCH R	I	80-ZM6-243-010		SH 1.75-3.6-0.5 SLT
29	82-ZM3-628-010		SOL ASSY,23 SO	J	86-ZM4-206-110		S-SCREW,AZIMUTH L
30	82-ZM1-322-010		SPR-T,FR 60				
31	82-ZM1-220-210		GEAR,IDLER				
32	82-ZM3-616-010		RING MAGNET 4				
33	86-ZM1-219-010		CLR,REEL SLIP				
34	86-ZM1-220-010		FELT,DIA 5.3-14-0.8				
35	82-ZM1-216-510		GEAR,REEL				

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