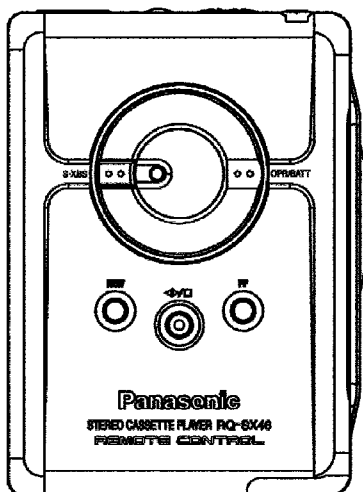


Service Manual

Mini Cassette



RQ-SX46EG RQ-SX46EB

Stereo Cassette Player

Colour

(S).....Silver Type

(A).....Blue Type

(K).....Black Type

AR21 Mechanism Series

Specifications

General

Power Requirement:

Battery; DC 1.5V (one R6/LR6, "AA", UM-3 battery)

Rechargeable Battery; DC 1.2V with an included Panasonic Rechargeable Battery (RP-BP62EYDST) x 1

Power output: 1.5mW+1.5mW (RMS...max)

Output jack: Headphone; 80 Ω , \varnothing 3.5

Dimensions(WxHxD): 108.8 x 77.1 x 20.4 mm

Weight: 154g (With rechargeable battery)

Charger:

input;

For (EG) area; AC 220 ~ 230 V, 50Hz, 3 W

For (EB) area; AC 220 ~ 240 V, 50Hz, 3 W

Output; DC 1.2 V, 175 mA

Wow & Flutter; WRMS 0.28 %

Notes:

1. Weights and dimensions shown are approximate.
2. Design and specifications are subject to change without notice

Cassette Player

Track system: 4 track, 2 channel, stereo

Frequency Range (Normal): 40 ~ 18,000Hz (-6 dB)

Recharging time: About 4 hours

Motor: Electrical governor motor

Tape Speed: 4.8 cm/s

Playing time:

(When used in hold mode, at 25°C and on flat stable surface,)

Battery type	Tape playback
Rechargeable battery *1	About 13.5 hours
Panasonic alkaline battery	About 47.5 hours
Rechargeable battery *1 and Panasonic alkaline battery	About 60 hours

*1 When the included rechargeable battery is fully recharged (4 hours required)

- Operating conditions may reduce the operating times shown above.

WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

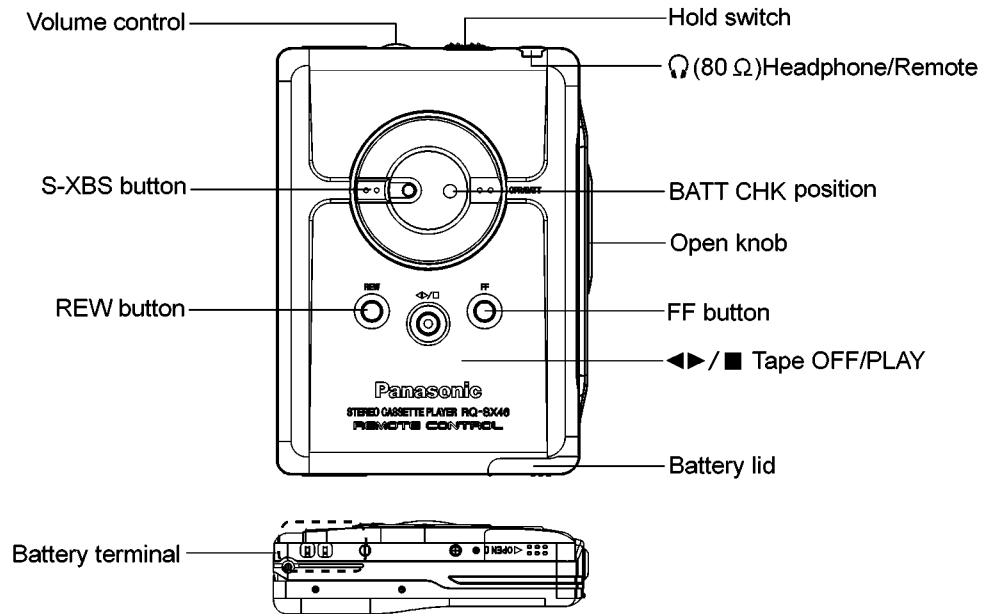
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CONTENTS

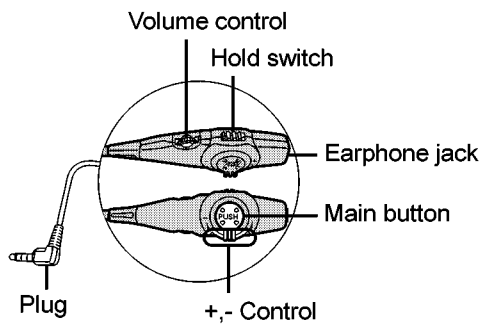
	Page		Page
1 Location of Controls	3	3.13. Notice for assembling the cassette lid	8
2 Service Mode	4	3.14. Notice for assembling the rear cabinet ass'y	9
2.1. Unit and Stereo Earphones Test	4	4 Check Point of Signal	9
2.2. Remote Controller Test	4	5 Block Diagram	9
3 Operation Checks and Component Replacement Procedures	5	6 Schematic Diagram	9
3.1. Removal of the rear cabinet ass'y	5	6.1. Schematic Diagram Notes	9
3.2. Removal of the cassette lid	5	6.2. Schematic Diagram	10
3.3. Removal of the link angle and link unit	6	7 Printed Circuit Board Diagram	13
3.4. Removal of the main P.C.B.	6	8 Type Illustration of ICs, Transistors and Diodes	15
3.5. Remove the battery terminal (-) and (+)	6	9 Measurements and Adjustments	15
3.6. Removal of the mechanism ass'y and middle cabinet	6	10 Terminal Function of ICs	16
3.7. Remove of the head block and pinch rollers	7	11 Supply of Rechargeable Battery as Replacement Parts	16
3.8. Removal of the open knob	7	12 Caution in Use of Rechargeable Battery	16
3.9. Removal of the lock cam and lock spring	7	13 Mechanism Parts Location	17
3.10. Removal of the open spring and sheet	7	14 Cabinet Parts Location	18
3.11. Notice for assembling the mechanism	8	15 Packaging	19
3.12. Notice for assembling the main P.C.B.	8	16 Replacement Parts List	19

1 Location of Controls

Main Unit



Remote Control



Stereo earphones



2 Service Mode

2.1. Unit and Stereo Earphones Test

Service Mode

The RQ-SX46 has a Service Mode designed to help identify faulty parts in the event of an error.

This mode is especially useful when servicing carried out.

Items Required

1. Stereo earphones.
2. Remote controller.
3. Rechargeable battery or dry cell (R6/LR6, AA, UM-3) housed in case.

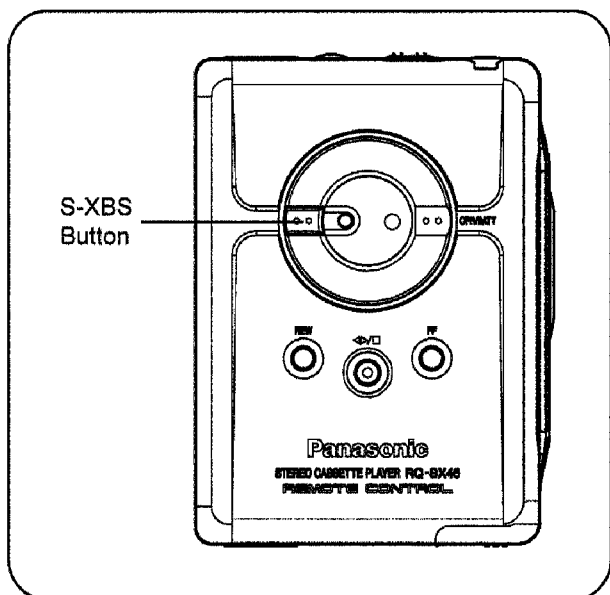
Service Mode Functions

1. Amplifier test
This test should be run if an amplifier failure occurred during test 1. above.

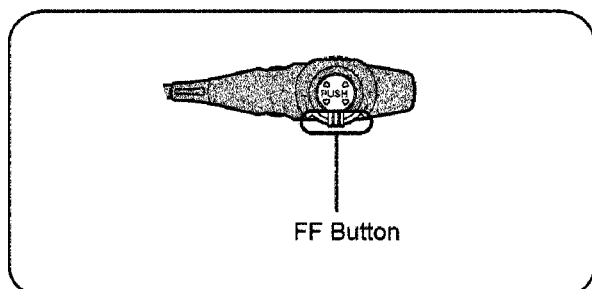
Unit and Stereo Earphones Test Preparations

1. Plug the stereo earphones into headphone jack.
2. Insert a fully-charged rechargeable battery or dry cell (R6/LR6, AA, UM-3) (housed in battery case).
3. Insert a cassette tape.
4. Release the hold mode.

Main unit operation switches location

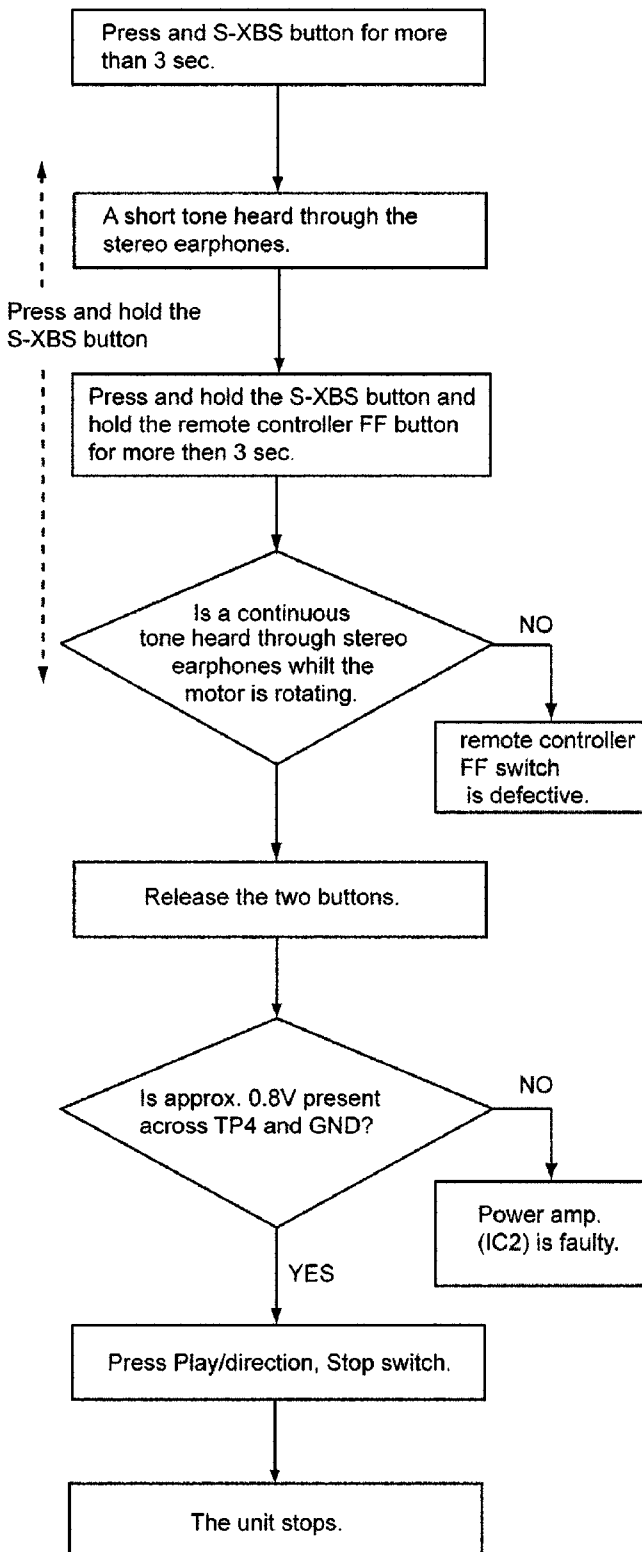


Remote controller operation switches location



2.2. Remote Controller Test

This test is required if the amplifier is found to be malfunctioning through Unit and Stereo Earphone Test. Preparations: See Unit and Stereo Earphone Test.



Note: The unit exits Service Mode when the Play/direction, Stop switch is pressed.

3 Operation Checks and Component Replacement Procedures

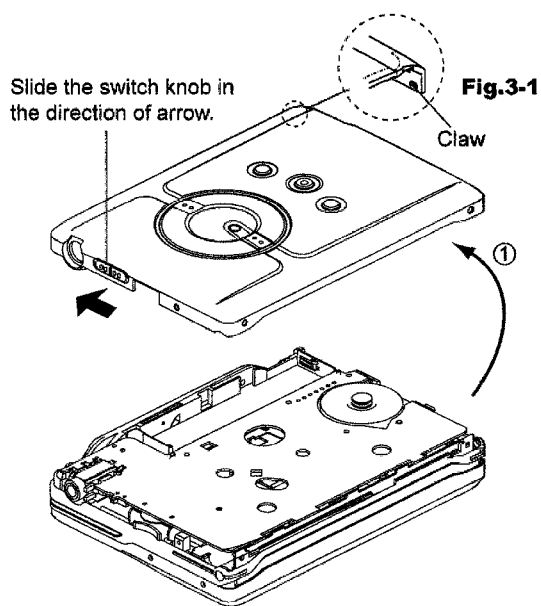
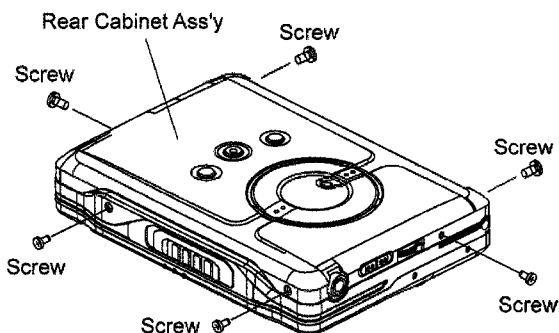
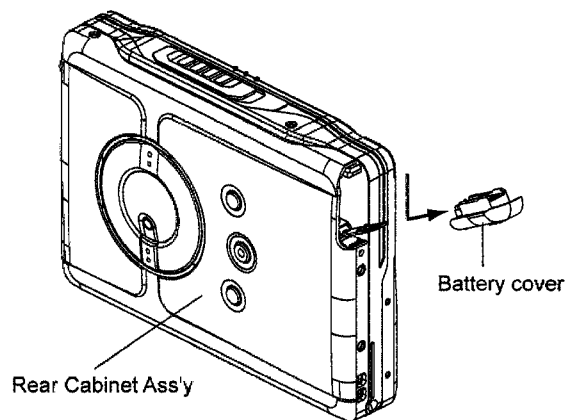
1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures special ressembly procedures are described only when required.
3. Select item from the following index when checks or replacement are required.

Contents

1. Checking for the main P.C.B.
2. Replacement for the mechanism.
3. Replacement for the head block ass'y and pinch rollers.
4. Replacement for the cassette lid and link unit.

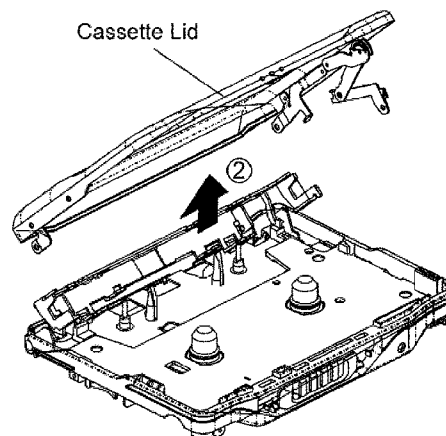
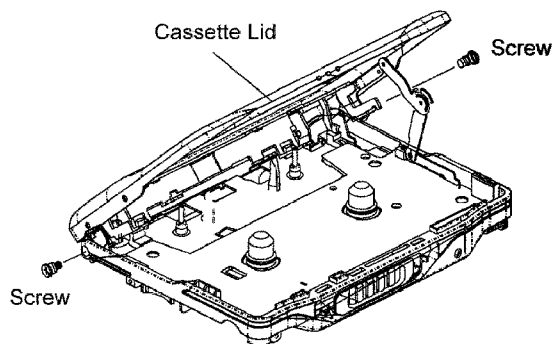
3.1. Removal of the rear cabinet ass'y

1. Slide the switch knob in the direction of arrow.(Fig.3)
2. Remove the battery cover x 1. (Fig.1)
3. Remove the screws x 6. (Fig.2)
4. Remove the claw. (Fig.3-1)
5. Remove the rear cabinet in the direction of arrow ①.(Fig.3)



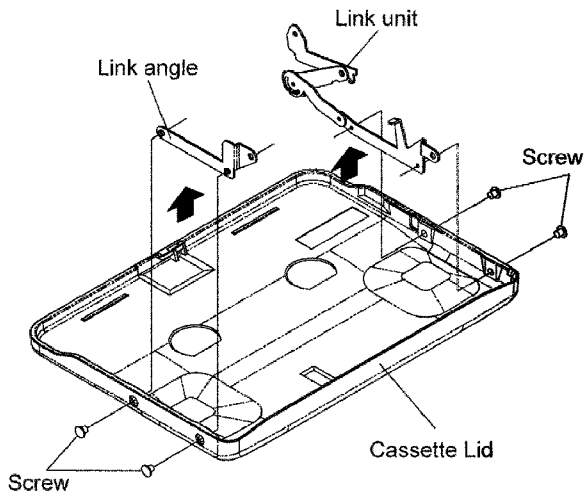
3.2. Removal of the cassette lid

1. Remove the screws x 2. (Fig.4)
2. Remove the cassette lid in the direction of arrow ②. (Fig.5)



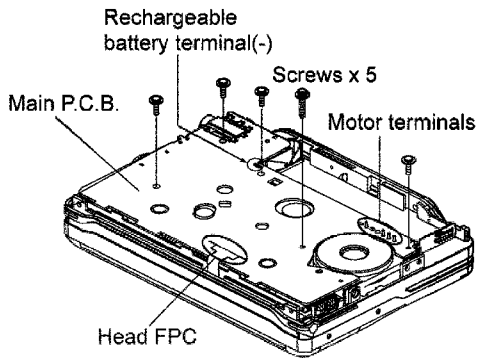
3.3. Removal of the link angle and link unit

1. Remove the screws x 4.
2. Remove the link angle and link unit in the direction of arrow.

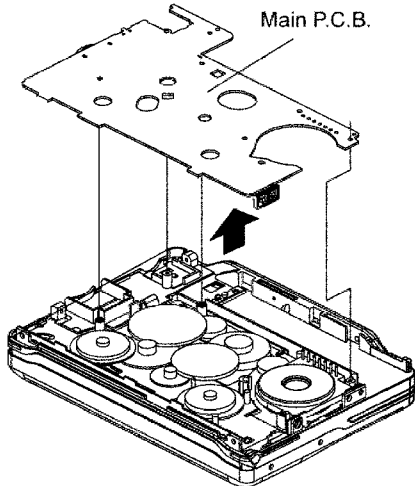


3.4. Removal of the main P.C.B.

1. Remove the screws x 5
2. Remove 6 solders of the head FPC.
3. Unsolder the motor terminals (4 point).
4. Unsolder the rechargeable battery terminals (-)(1 point).

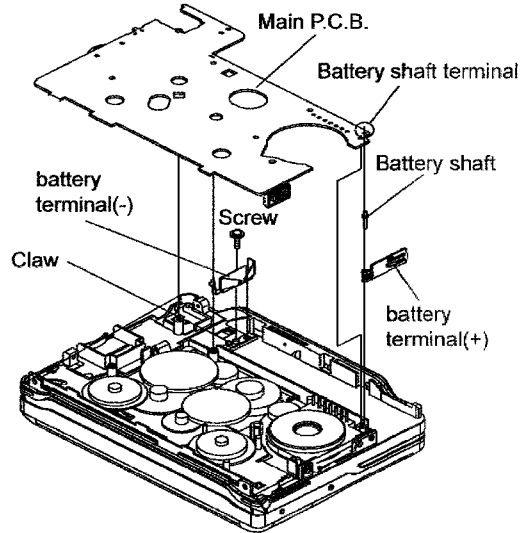


5. Remove the Main P.C.B. in the direction of arrow.(Fig.8)



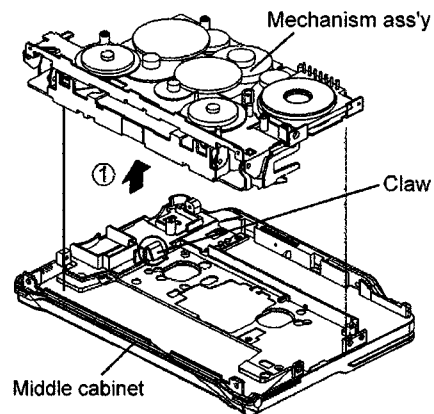
3.5. Remove the battery terminal (-) and (+)

1. Remove the screw x 1.
2. Remove the claw and then remove the battery terminal(-).
3. Unsolder the battery shaft terminal.
4. Remove the battery shaft and battery terminal(+).



3.6. Removal of the mechanism ass'y and middle cabinet

1. Remove the claw.
2. Remove the mechanism ass'y in the direction of arrow ①.



3.7. Remove of the head block and pinch rollers

1. Remove the head block in the direction of arrow ① and ②. (See Fig.1 & Fig. 2)

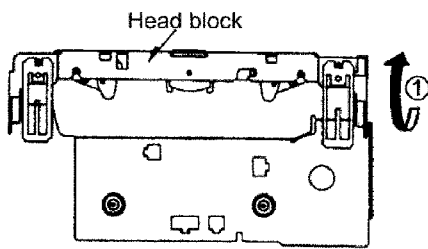


Fig.1

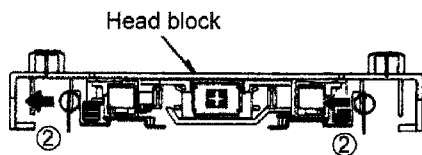


Fig.2

2. Remove the pinch roller in the direction of arrow ③.(Fig.3)

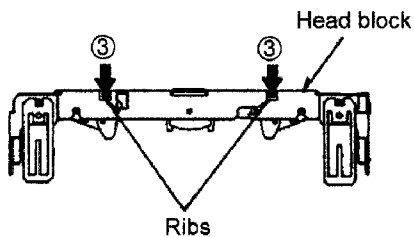


Fig. 3

3. Remove 2 springs in order to remove the pinch roller.(Fig. 4)

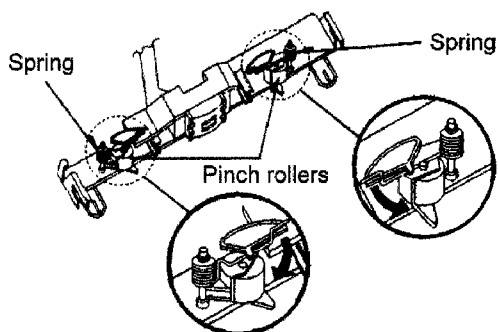
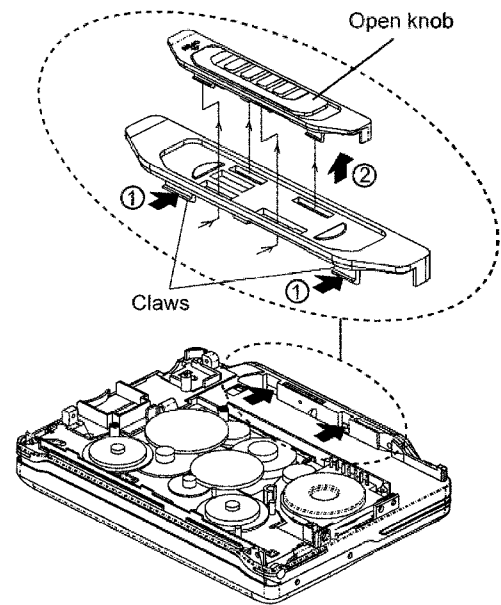


Fig. 4

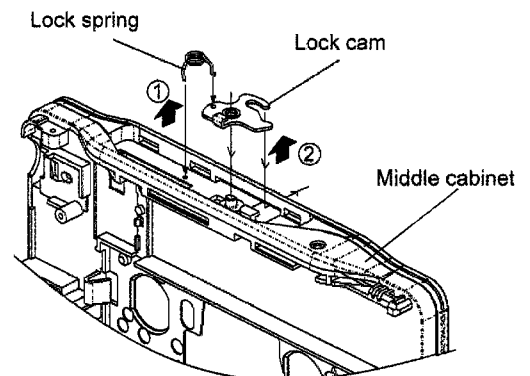
3.8. Removal of the open knob

1. Remove the claws in the direction of arrow ①.
2. Remove the open knob in the direction of arrow ②.



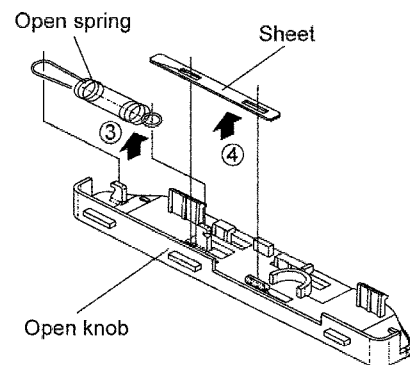
3.9. Removal of the lock cam and lock spring

1. Remove the lock spring and lock cam in the direction of arrow ① and ②.



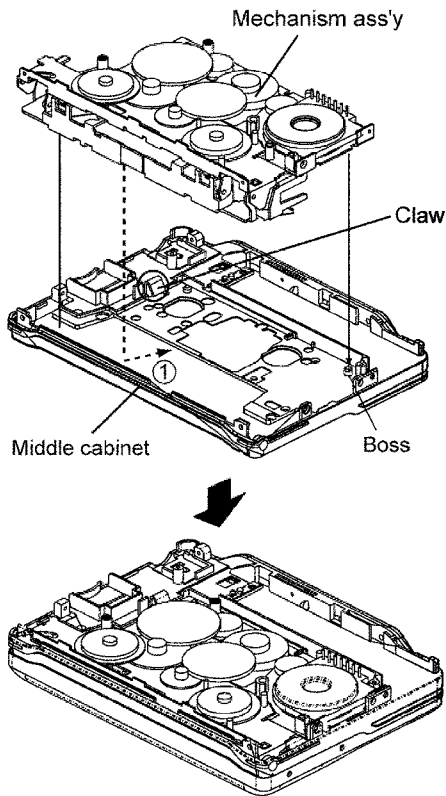
3.10. Removal of the open spring and sheet

1. Remove the open spring and sheet in the direction of arrow ③ and ④.



3.11. Notice for assembling the mechanism

1. Install the mechanism in the direction of arrow ①.
2. Engage the mechanism in the boss of the middle cabinet.
3. Make sure the claw fully to the mechanism.

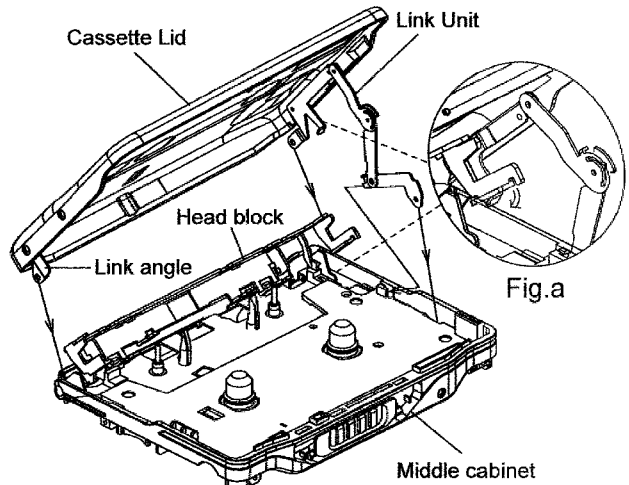


3.13. Notice for assembling the cassette lid

1. Put the left basic angle of the cover onto the tape guiding slot of the deck.
2. Insert the left link angle into the cabinet is stationary holder.
3. Install the right link unit of the middle cabinet.
4. Tighten the cassette lid and the deck chassis with screws (x 2).

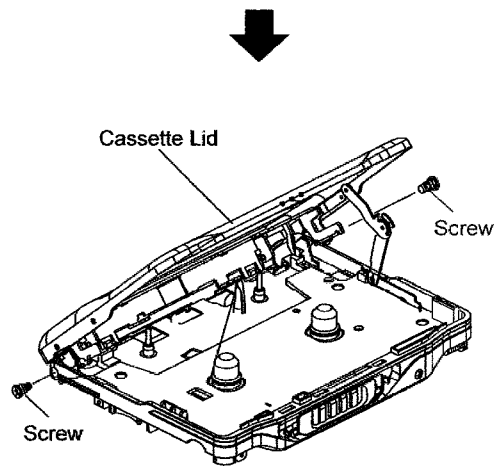
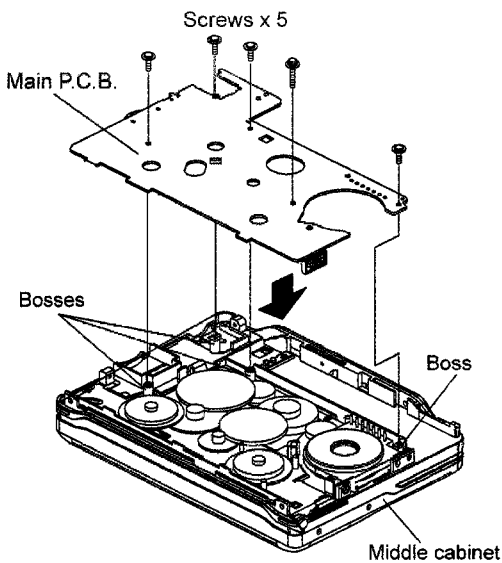
Notes:

1. It's necessary to use new screws for replacing screw tightened.
2. The pulling hook of the left side link should be positioned on the tape guiding slot of deck (See Fig.a)
3. When assembling, prevent link twist make sure that the link doesn't touch the cabinet and the head block.



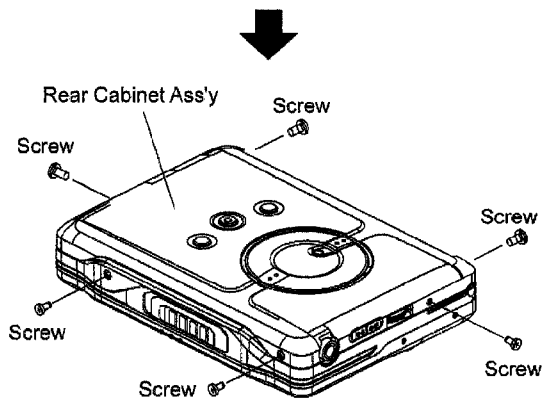
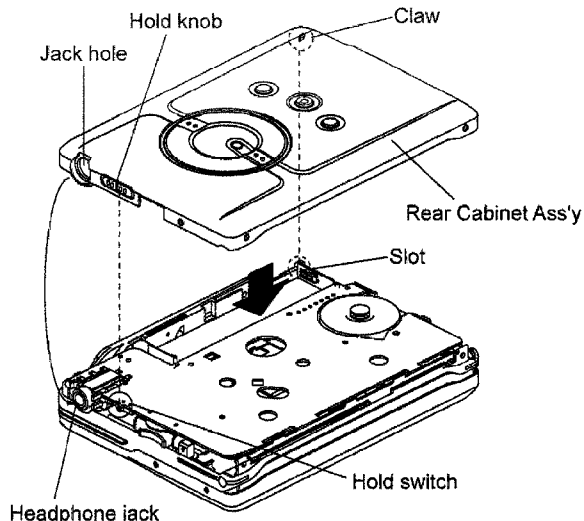
3.12. Notice for assembling the main P.C.B.

1. Fit the main P.C.B. onto bosses of the middle cabinet according to the arrow direction.
2. Use screws to fix it onto the middle cabinet.



3.14. Notice for assembling the rear cabinet ass'y

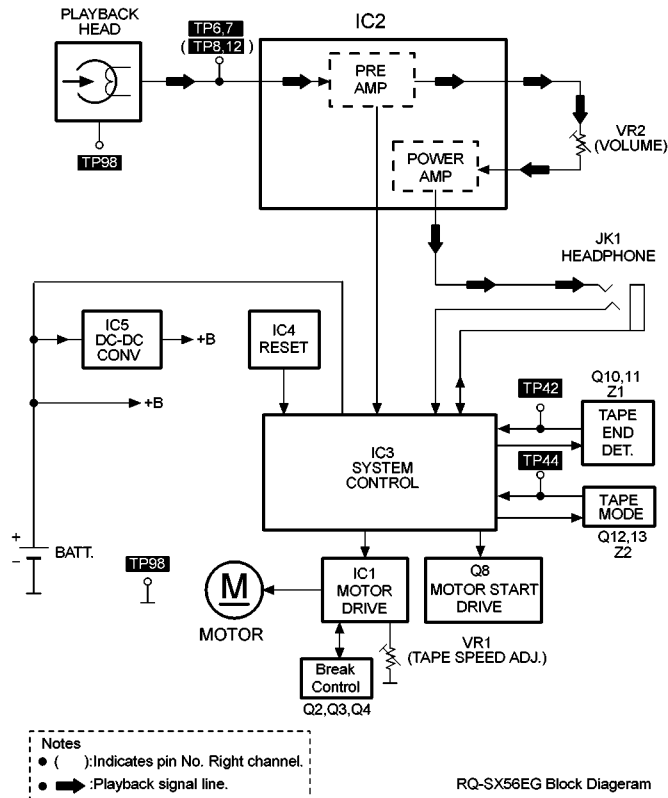
1. Slant rear cabinet and put jack hole onto the headphone jack.
2. Put the hold knob onto the hold switch.
3. Insert the claw into the slots of the middle cabinet and push them simultaneously.
4. Tighten the rear Cabinet Ass'y and the middle cabinet with screws (x 6).



4 Check Point of Signal

CHECK ITEM	TEST POINT
HEAD	FWD Lch TP7
	FWD Rch TP8
	REV Lch TP6
	REV Rch TP18
	VREF TP4
POWER AMP	Lch HEADPHONES JACK TP63
	Rch HEADPHONES JACK TP64
	GND HEADPHONES JACK TP79
TAPE END PULSE	FWD TP42
	GND TP98

5 Block Diagram



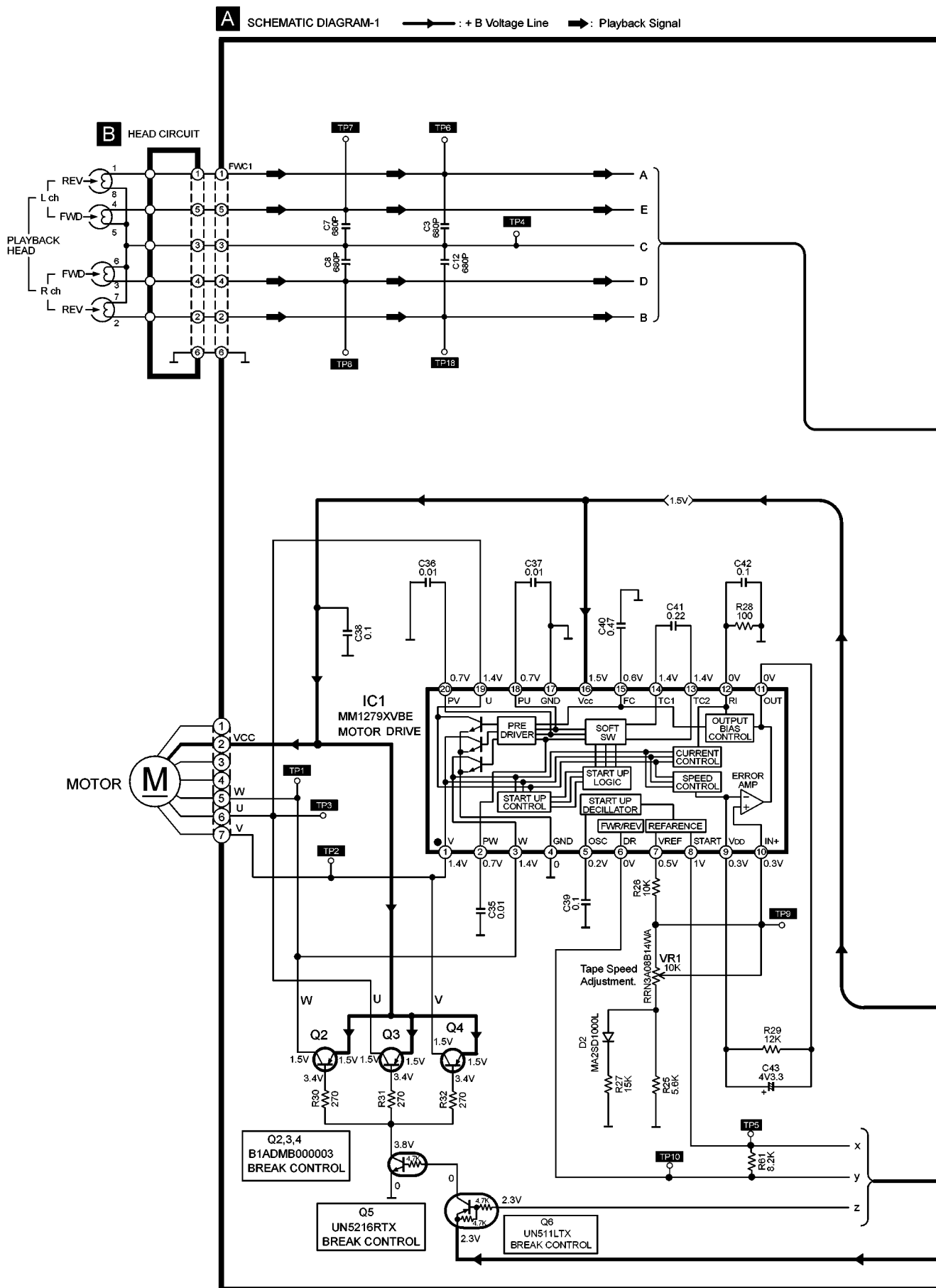
6 Schematic Diagram

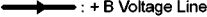

6.1. Schematic Diagram Notes

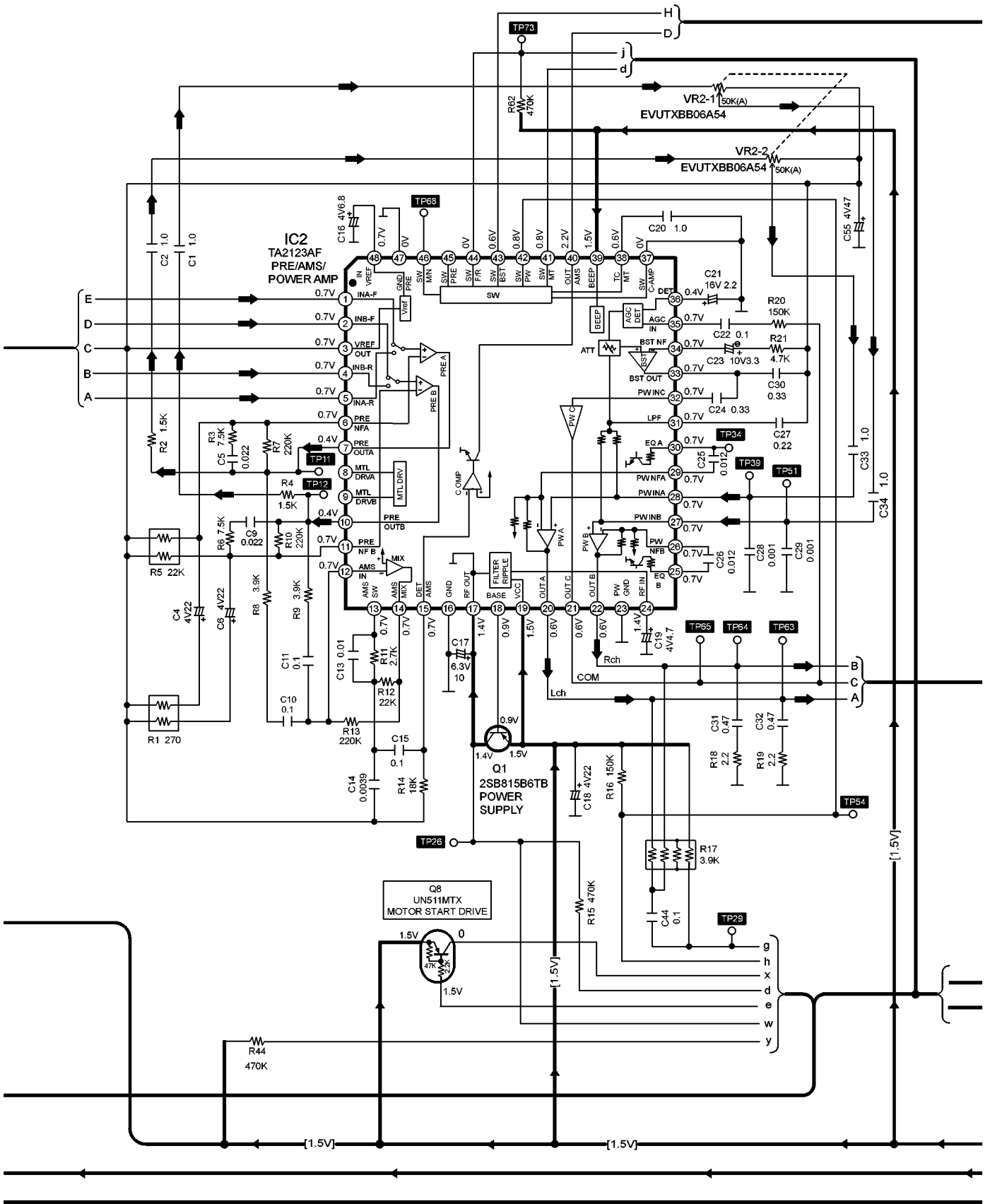
Notes:

- SW1: Cassette half detect switch. (IN...ON, OUT...OFF)
- SW4: HOLD switch in "OFF" position
- SW5: MAIN switch (◀▶ / ■).
- SW6: REW/- switch. (REW)
- SW7: FF/+ switch. (FF)
- SW8: S-XBS switch.(SOUND SEL.)
- VR1: Tape speed adjustment VR.
- VR2: Volume control VR. (VOLUME)
- DC voltage measurements are taken with electronics voltmeter from negative terminal of battery. No mark...Fast Forward (FF) mode.
- Current consumption of tape playback (FWD)
- Volume VR MAX.....48.5mA
MIN.....42mA
- Signal line
 - ➔ : Positive voltage line
 - ➡ : Playback signal line
- **This schematic diagram may be modified at any time with development of new technology.**

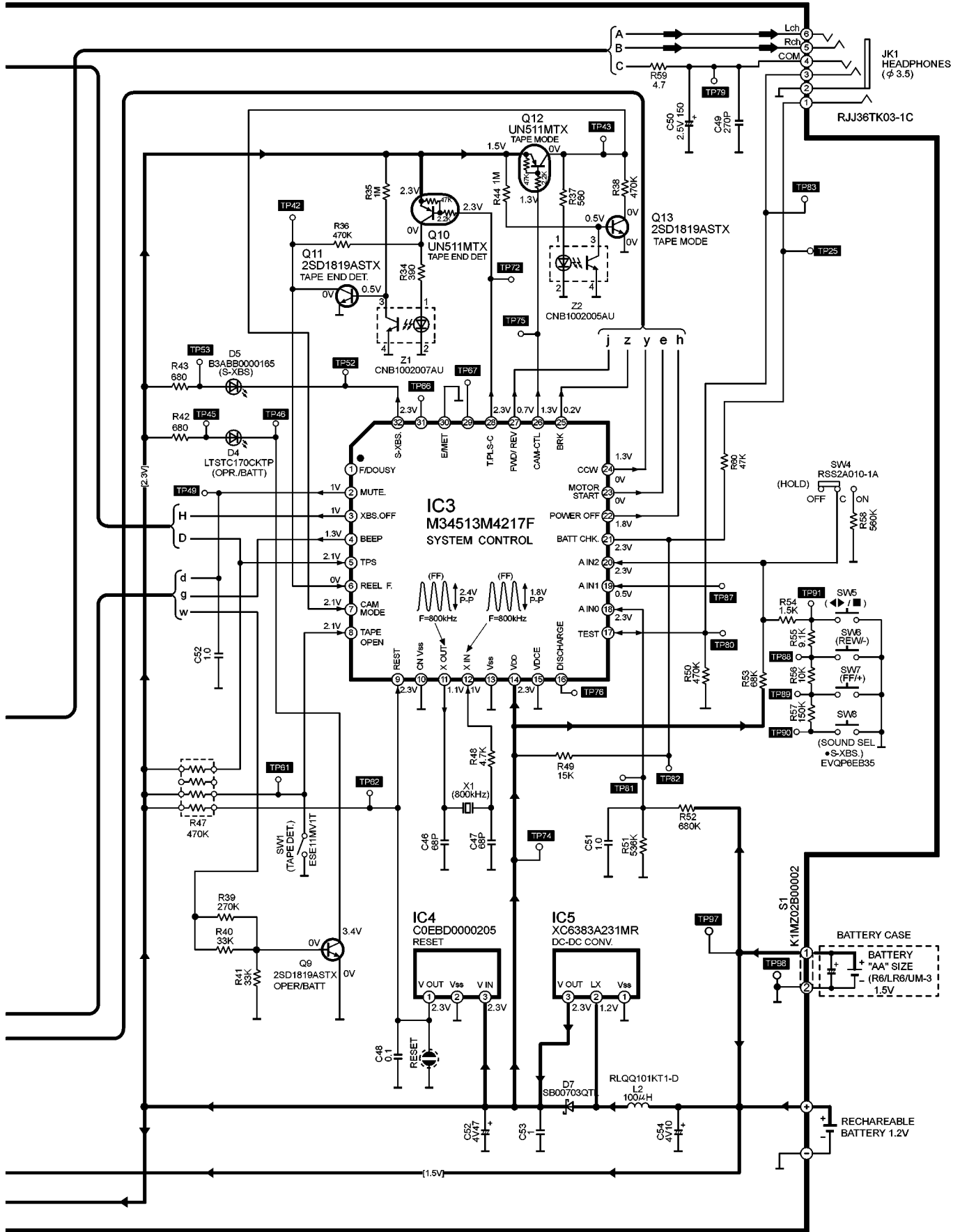
6.2. Schematic Diagram



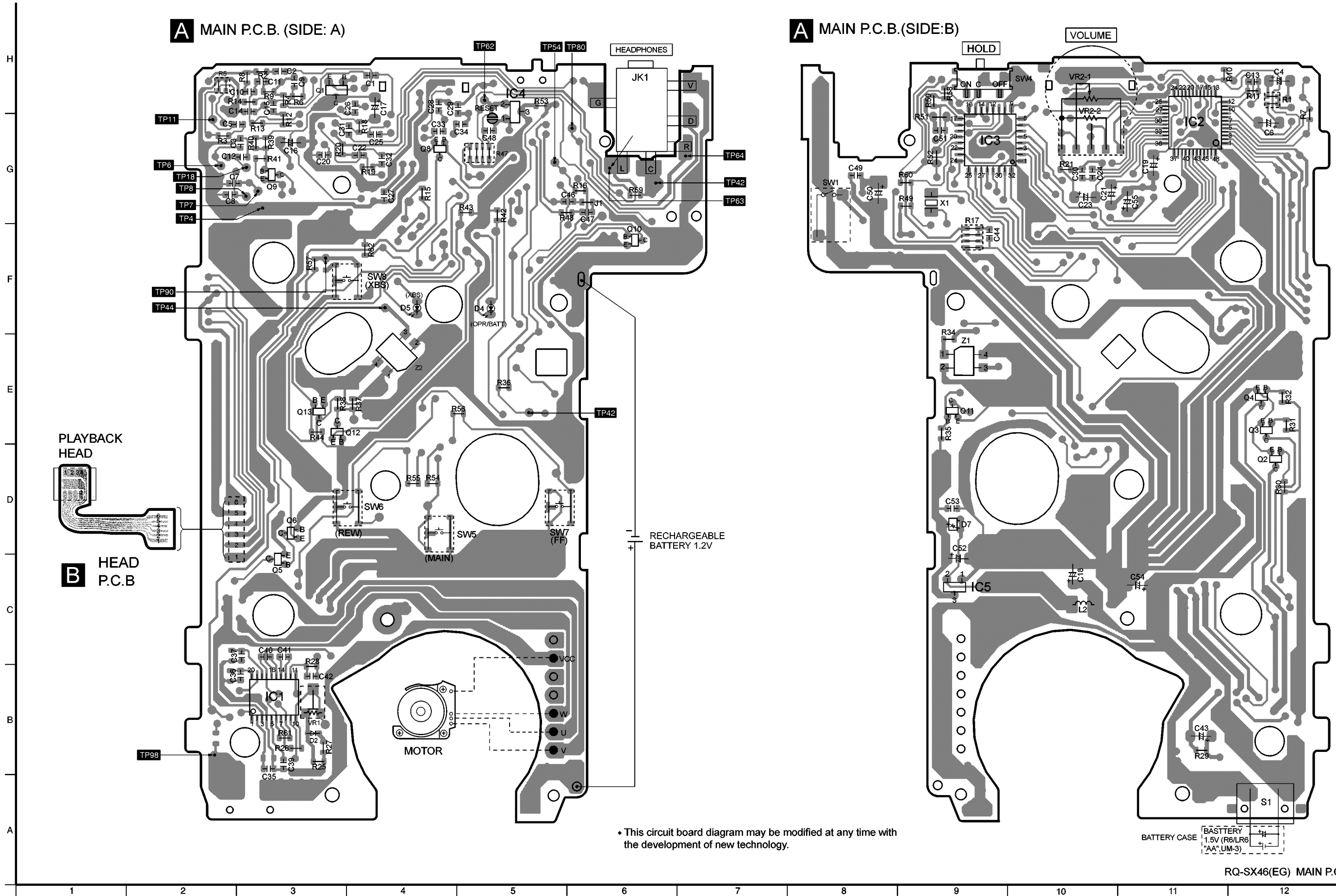
A SCHEMATIC DIAGRAM-2  : + B Voltage Line  : Playback Signal



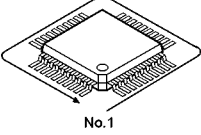
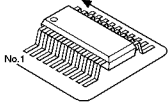
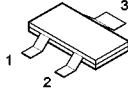
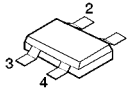
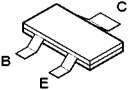
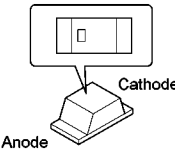
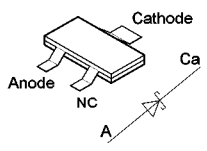
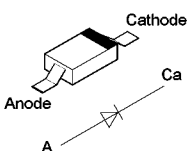
A SCHEMATIC DIAGRAM-3 \rightarrow : + B Voltage Line \rightarrow : Playback Signal



7 Printed Circuit Board Diagram



8 Type Illustration of ICs, Transistors and Diodes

 <p>TA2123AF 48PIN M34513M4217F 32PIN</p>	<p>MM1279XVBE</p> 	<p>XC6383A231MR C0EBD0000205</p> 	<p>CNB1002005AU CNB1002007AU</p> 
 <p>2SD1819ASTX B1ADMB000003 2SB815B6TB UN511MTX UN511LTX UN5216RTX UN5114TX</p>	<p>LTSTC170CKTP B3ABB0000165</p> 	<p>SB00703QTL</p> 	<p>MA2SD1000L</p> 

9 Measurements and Adjustments

• Adjustment Instructions

READ CAREFULLY BEFORE ATTEMPTING ADJUSTMENTS

1. Set volume control to maximum.
2. Set Dolby NR switch to OFF.
3. Release the hold state.
4. Set power source voltage to 1.25V ~ 1.35V DC.

• Control Positions and Equipment Used

1. Frequency counter

• Tape Section

ITEM	TEST TAPE	MEASUREMENT POINT	ADJUSTMENT POINT	PROCEDURE
Tape speed adjustment	QZZCWAT (3 kHz, -10 dB)	Connect the frequency counter to headphones jack (80 Ω) (Refer to Fig.1)	VR1 (Refer to Fig.2)	Playback the central part of the tape and adjust VR1 so that the tape speed is as follow. Forward: 3015 ± 15 Hz Reverse: 2975 ~ 3055 Hz Make sure that the frequency range in within ± 60 Hz for between "Forward" and "Reverse" mode.

Note: The Playback head is supplied on the head arm assembly. (See the Mechanism parts Location)
The assembly requires no adjustment.

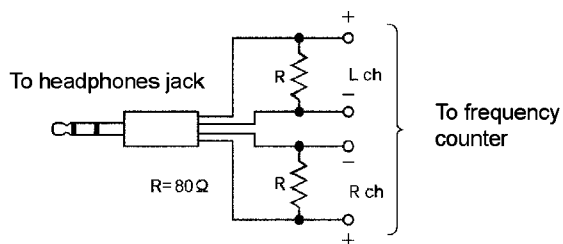


Fig. 1

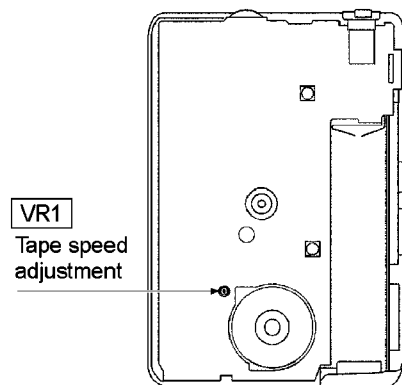


Fig. 2

10 Terminal Function of ICs

• IC3 (M34513M4217F): Mechanism Control

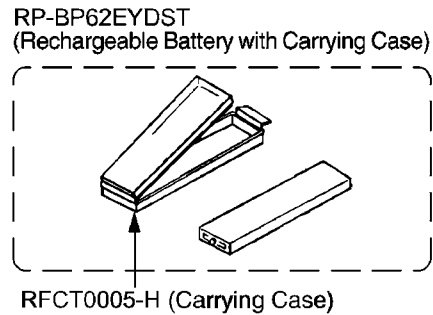
Pin No.	Terminal Name	I/O	Function
1	NC	—	Not connected
2	MUTE	I/O	Muting signal output
3	XBS-OFF	I/O	S-XBS control signal output
4	BEEP	I/O	Beep signal output
5	TPS. IN	I/O	TPS control signal input
6	REEL F.	I	FWD reel pulse input
7	CAM MODE	I	Cam mode TPS control signal input
8	TAPE ON	I	Cassette tape inssert signal input (L=tape is inserted, H=Tape is not inserted)
9	RESET	I	Reset signal input
10	CN Vss	—	GND
11	X OUT	O	Crystal OSC terminal (800kHz)
12	X IN	I	Crystal OSC terminal (800kHz)
13	Vss	—	GND
14	VDD	—	Power supply
15	VDCE	—	GND
16	DISCHARGE	I/O	Battery condition detect signal output
17	TEST	I/O	TEST MODE CONTROL
18	A IN0	I	No used, connected to VDD
19	A IN1	I	FWD/REV detect signal input
20	A IN2	I	Operation switch signal input
21	A IN3	I	BATT CHECK signal input
22	POWER OFF	I/O	Power control signal output
23	MOTOR	I/O	Motor drive signal output
24	M.CCW	I/O	Motor control signal output
25	BRK	I/O	Motor speed control signal output
26	CAM-CTL	I/O	Solenoid drive signal output
27	FWD/REV	I/O	Power AMP FWD/REV control signal output
28	T.PLS C	I/O	Power control signal output (for photocoupler)
29	NC	—	Not connected
30	E /MET	O	E /MET ON signal output
31	NC	—	Not connected
32	S-XBS/LED	O	XBS/LED ON signal output

11 Supply of Rechargeable Battery as Replacement Parts

Please take note of the following points relating to Carrying Case to be used for protection of Rechargeable Battery from shorting.

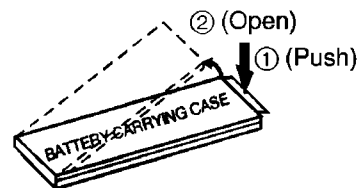
Replacement Parts:

- Rechargeable Battery (RP-BP62EYDST) to be supplied will be provided with Carrying Case (RFCT0005-H).
- No replacement parts will be supplied for Rechargeable Battery without Carrying Case.
- Replacement parts will be supplied for Carrying Case (RFCT0005-H) without Rechargeable Battery.
- To your customers, delivery Rechargeable Battery together with Carrying Case to prevent shorting accidents that may occur when Rechargeable Battery is carried about without Carrying Case.



12 Caution in Use of Rechargeable Battery

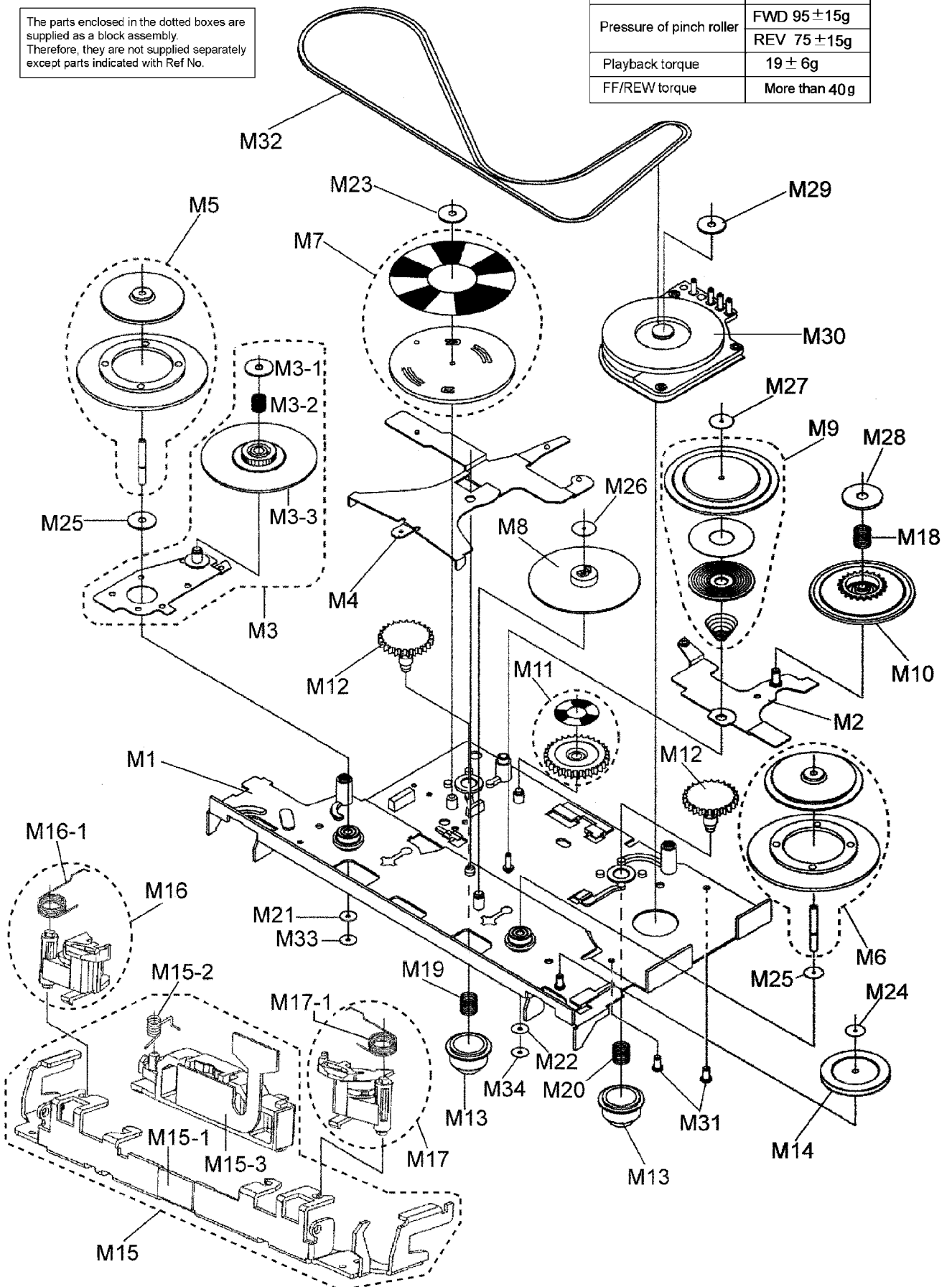
Take Rechargeable Battery out of Carrying Case and use it. Be sure to carry Rechargeable Battery in this Carrying Case. If not, may either head or ignite by shorting with a metal.



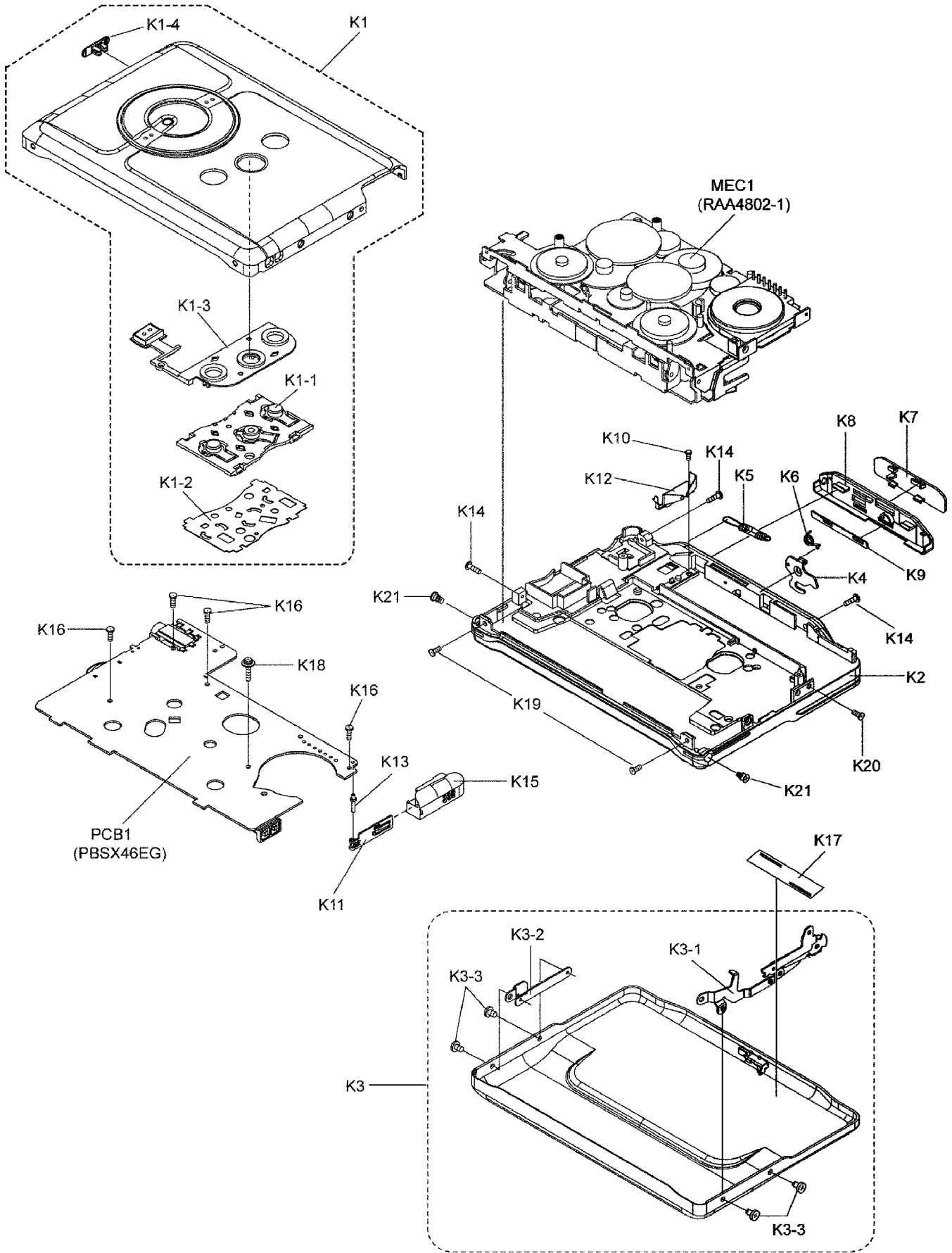
13 Mechanism Parts Location

The parts enclosed in the dotted boxes are supplied as a block assembly. Therefore, they are not supplied separately except parts indicated with Ref No.

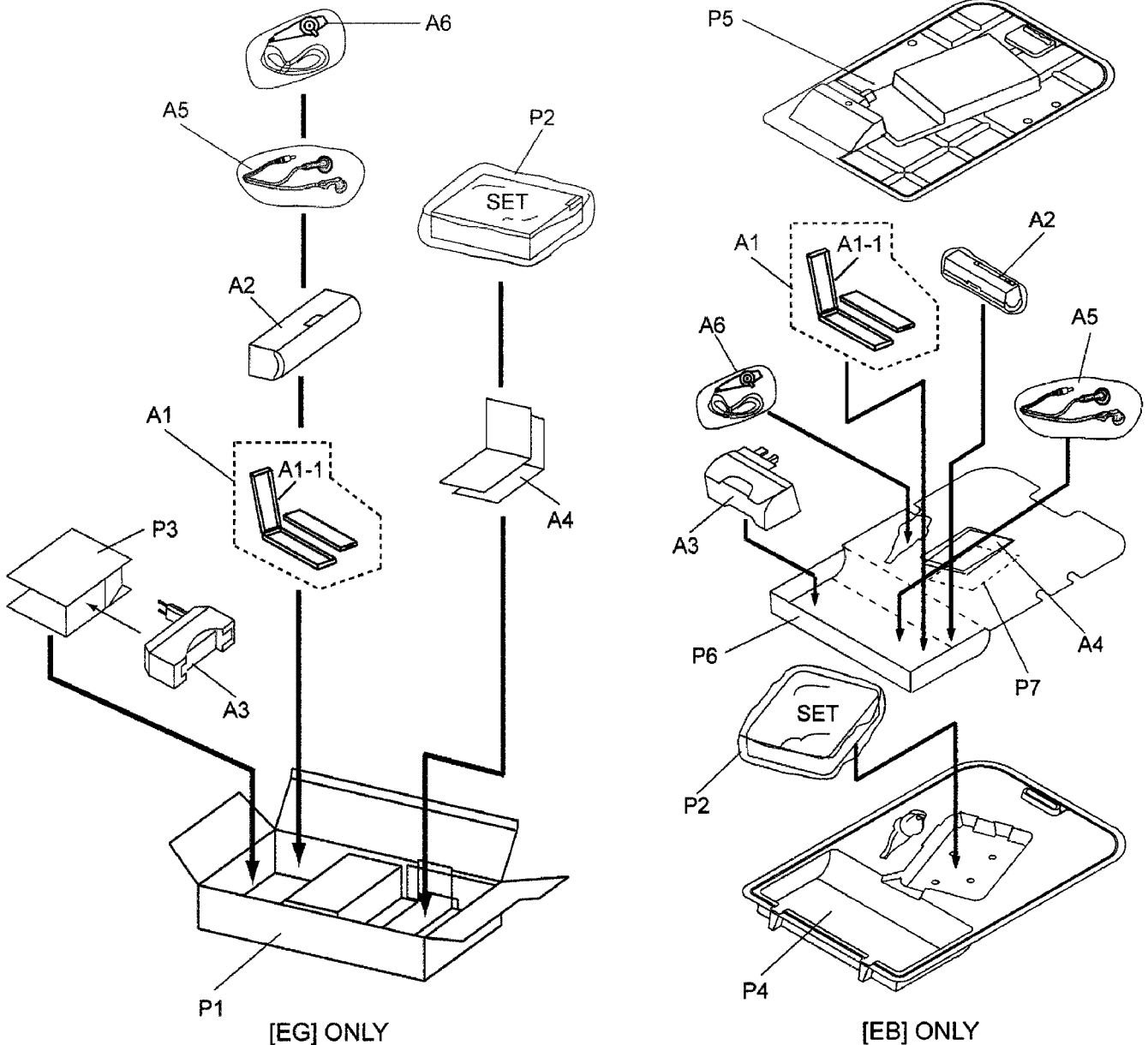
Wow and flutter	0.33 % (WRMS)
Pressure of pinch roller	FWD $95 \pm 15g$ REV $75 \pm 15g$
Playback torque	$19 \pm 6g$
FF/REW torque	More than 40g



14 Cabinet Parts Location



15 Packaging



16 Replacement Parts List

Notes:

- Important safety notice:

Components identified by \triangle mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufactures specified parts shown in the parts list.

1. (T) Indicates parts that are supplied **TAMACO**
2. (M) Indicates parts that are supplied **MESA**
3. The reference number SA represent the grease tool usea for unit.
4. The marking (RTL) indicates that Retention Time is Limited for this item. After the discontinuation of this

assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

Ref. No.	Part No.	Part Name & Description	Remarks
MECHANISM PARTS			
M1	RXKT0002-1	MECHA CHASSIS ASS'Y	(T)
M2	RXLT0001	GEAR LEVER ASS'Y	(T)
M3	RXLT0004	CONNECT LEVER ASS'Y	(T)
M3-1	RHWT0008	CONNECT GEAR WASHER	(T)
M3-2	RMBT0033	CONNECT GEAR SPRING	(T)
M3-3	RDGT0017	CONNECT GEAR	(T)
M4	RMLT0007	CHANGE LEVER	(T)
M5	RXFT0001	FLYWHEEL F ASS'Y	(T)
M6	RXFT0002	FLYWHEEL R ASS'Y	(T)
M7	RXGT0001	CAM GEAR ASS'Y	(T)

Ref. No.	Part No.	Part Name & Description	Remarks
M8	RDGT0019	SHIFT GEAR	(T)
M9	RXGT0002	FRICTION GEAR ASS'Y	(T)
M10	RDGT0022	OPERATION GEAR	(T)
M11	RXGT0003	IDLER GEAR ASS'Y	(T)
M12	RDGT0024	REEL GEAR	(T)
M13	RDR0030	REEL CAP	(T)
M14	RDPT0004	CENTER PULLEY	(T)
M15	RXNT0001	HEAD BLOCK ASS'Y	(T)
M15-1	RMAT0073	HEAD BLOCK	(T)
M15-2	RMB0359	HEAD ARM SPRING	(T)
M15-3	REDT0001	HEAD ASS'Y	(T)
M16	RXLT0002	PINCH ROLLER ASS'Y F	(T)
M16-1	RMBT0043	PINCH ARM SPRING F	(T)
M17	RXLT0003	PINCH ROLLER ASS'Y R	(T)
M17-1	RMBT0044	PINCH ARM SPRING R	(T)
M18	RMBT0035	OPERATION GEAR SPRING	(T)
M19	RMBT0045	REEL SPRING F	(T)
M20	RMB0354	REEL SPRING R	(T)
M21	RHWT0006	CAPSTAN HOLD WASHER F	(T)
M22	RHWT0007	CAPSTAN HOLD WASHER R	(T)
M23	RHWT0009	CAM GEAR WASHER	(T)
M24	RHWT0013	CENTER PULLEY WASHER	(T)
M25	RHWT0014	SLIDE WASHER	(T)
M26	RHWT0015	SHIFT GEAR WASHER	(T)
M27	RHWT0016	FRICTION GEAR WASHER	(T)
M28	RHWT0017	OPERATION GEAR WASHER	(T)
M29	RHWT0018	MOTOR WASHER	(T)
M30	BFL26NB1GT	MOTOR	(T)
M31	RHDT14049	MOTOR SCREW	(T)
M32	RDVT0004	BELT	(T)
M33	RHW13015	WASHER	(T)
M34	RHWT0021	Capstan Oil Stop Washer	(T)
CABINET PARTS			
K1	RYKT0033-S	REAR CABINET ASSEMBLY [Silver]	(T)
K1	RYKT0033-A	REAR CABINET ASSEMBLY [Blue]	(T)
K1	RYKT0033-K	REAR CABINET ASSEMBLY [Black]	(T)
K1-1	RGUT0160-A	DECK BUTTON [Silver]	(T)
K1-1	RGUT0160-1A	DECK BUTTON [Blue]	(T)
K1-1	RGUT0160-A	DECK BUTTON [Black]	(T)
K1-2	RMVT0028	DECK BUTTON SHEET	(T)
K1-3	RGKT0083-S	LED PANEL ORANMENT	(T)
K1-4	RGV0180-1HJ	HOLD KNOB	(T)
K2	RKMT0053-S	MIDDLE CABINET [Silver]	(T)
K2	RKMT0053-G	MIDDLE CABINET [Blue]	(T)
K2	RKMT0053-K	MIDDLE CABINET [Black]	(T)
K3	RYFT0003A-S	CASSETTE COVER ASSEMBLY [Silver]	(T)
K3	RYFT0003A-A	CASSETTE COVER ASSEMBLY [Blue]	(T)
K3	RYFT0003A-K	CASSETTE COVER ASSEMBLY [Black]	(T)
K3-1	RXMT0008	LINK UNIT (L)	(T)
K3-2	RMAT0082	LINK ANGLE (R)	(T)
K3-3	RHQ0062-S	SCREW	(T)
K4	RMAT0085	LINK ANGLE	(T)
K5	RMBT0026	AUTO RETURN SPRING	(T)
K6	RMBT0028	CAM SPRING	(T)
K7	RGVT0072-S	OPEN KNOB [Silver]	(T)
K7	RGVT0072-G	OPEN KNOB [Blue]	(T)
K7	RGVT0072-K	OPEN KNOB [Black]	(T)
K8	RKQT0028-S	UPPER CABINET [Silver]	(T)
K8	RKQT0028-G	UPPER CABINET [Blue]	(T)
K8	RKQT0028-K	UPPER CABINET [Black]	(T)
K9	RHWT0020	OPEN KNOB SHEET	(T)
K10	RHDT14050-K	SCREW	(T)
K11	RJC99027-J	CHARGE TERMINAL (+)	(T)
K12	RJC99028-1J	CHARGE TERMINAL (-)	(T)
K13	RJR0154-2J	BATTERY SHAFT	(T)
K14	RHQ0007-S	SCREW	(T)
K15	RKKT0045-S	BATTERY COVER [Silver]	(T)
K15	RKKT0045-A	BATTERY COVER [Blue]	(T)
K15	RKKT0045-K	BATTERY COVER [Black]	(T)

Ref. No.	Part No.	Part Name & Description	Remarks
K16	RHQ0060-N	SCREW	(T)
K17	RQLTA0253-J	ORIGIN LABEL	(T)
K18	RHDT14048	EARTH SCREW	(T)
K19	RHDT14026-S	SCREW	(T)
K20	RHD14057-S	SCREW	(T)
K21	RHDT14041-K	SCREW	(T)
ACCESSORIES			
A1	RP-BP62EYDST	RECHARGEABLE BATT. ASS Y	(T)
A1-1	RFCT0005-H	BATT CASE	(T)
A2	RFAT0006-H	BATTERY CASE (NO.3)	(T)
A3 [EG]	RFEB110E-U	NI-CD BATTERY CHARGER Δ	(T)
A3 [EB]	RFEB119B-U	NI-CD BATTERY CHARGER Δ	(T)
A4	RQTT0505-E	INSTRUCTION BOOK	(T)
A5	RFEV330P-HT	INNERPHONE	(T)
A6	RFEV036P-HS	REMOTE CONT	(T)
PACKING MATERIALS			
P1 [EG]	RPKT0556	DECORATION BOX (Silver)	(T)
P1 [EG]	RPKT0557	DECORATION BOX (Blue)	(T)
P1 [EG]	RPKT0558	DECORATION BOX (Black)	(T)
P2 [EG]	RPFT0015	SET BAG	(T)
P3 [EG]	RPNT0274	PAD	(T)
P4 [EB]	RPNT0432	CLAM SHEEL (FRONT)	(T)
P5 [EB]	RPNT0389	CLAM SHEEL (REAR)	(T)
P6 [EB]	RPQT0274	PAD	(T)
P7 [EB]	RPHT0013	SHEET	(T)
JIG/TOOL			
SA1	QZZCWAT	TEST TAPE (Tape Speed etc)	(M)
SA2	QZZCFM	TEST TAPE (AZIMUTH/FREQ)	(M)
MECHANISM			
MEC1	RAA4802-T	DECK MECHANISM ASS'Y	(T)
P.C.B			
PCB1	PBSX46EG	P.C.B ASS'Y *	(T)
INTEGRATED CIRCUITS TRANSISTORS AND DIODES			
IC1	MML279XVBE	I.C. (D20P) MOTOR DRIVER	(T)
IC2	TA2123AF	I.C. (D48P) PRE+POWER	(T)
IC3	M34513M4217F	I.C (U-COM)	(T)
IC4	XC61CN2102MR	RESET IC (3P)	(T)
IC5	XC6383A231MR	IC (3P)	(T)
Q1	2SB815B6TB	TRANSISTOR	(T)
Q2	B1ADMB000003	TRANSISTOR	(T)
Q3	B1ADMB000003	TRANSISTOR	(T)
Q4	B1ADMB000003	TRANSISTOR	(T)
Q5	UN5216RTX	TRANSISTOR (DIGITAL)	(T)
Q6	UN511LTX	TRANSISTOR	(T)
Q8	UN5114TX	TRANSISTOR	(T)
Q9	2SD1819ASTX	TRANSISTOR	(T)
Q10	UN511MTX	TRANSISTOR	(T)
Q11	2SD1819ASTX	TRANSISTOR	(T)
Q12	UN511MTX	TRANSISTOR	(T)
Q13	2SD1819ASTX	TRANSISTOR	(T)
D2	MA2SD1000L	DIODE	(T)
D4	LTSTC170CKTP	CHIP L.E.D. (RED)	(T)
D5	B3ABB0000165	CHIP L.E.D. (GREEN)	(T)
D7	SB00703QTL	SHOTTCKY DIODE	(T)
COILS AND TRANSFORMERS			
L2	RLQQ101KT1-D	CHIP COIL	(T)
VARIABLE RESISTORS			
VR1	RRN3A08B14WA	SEMI VARIABLE RESISTOR	(T)
VR2	EVUTXBB06A54	VARIABLE RESISTOR (VOLUME)	(T)
CONNECTOR			
S1	K1MZ02B00002	BATTERY TERMINAL	(T)
SWITCHES			
SW1	ESE11MV1T	PUSH SWITCH	(T)
SW4	RSS2A010-1A	SLIDE SWITCH	(T)
SW5	EVQP6EB35	TACT SWITCH	(T)
SW6	EVQP6EB35	TACT SWITCH	(T)
SW7	EVQP6EB35	TACT SWITCH	(T)
SW8	EVQP6EB35	TACT SWITCH	(T)
JACK			
JK1	RJJ36TK03-1C	SOCKETS (H.P)	(T)
CRYSTAL			
X1	RSXZ800KM01T	QUARTZ CRYSTAL OSCILLATOR	(T)
COMPONENT COMINATION			

Ref. No.	Part No.	Part Name & Description	Remarks
Z1	CNB1002005AU	PHOTO COUPLER	(T)
Z2	CNB1002007AU	PHOTO COUPLER	(T)
RESISTORS			
R1	EXBV4V271JV	CHIP RESISTOR	(T)
R2	ERJ3GEYJ152V	CHIP RESISTOR	(T)
R3	ERJ3GEYJ752V	CHIP RESISTOR	(T)
R4	ERJ3GEYJ152V	CHIP RESISTOR	(T)
R5	EXBV4V223JV	CHIP RESISTOR	(T)
R6	ERJ3GEYJ752V	CHIP RESISTOR	(T)
R7	ERJ3GEYJ224V	CHIP RESISTOR	(T)
R8	ERJ3GEYJ392V	CHIP RESISTOR	(T)
R9	ERJ3GEYJ392V	CHIP RESISTOR	(T)
R10	ERJ3GEYJ224V	CHIP RESISTOR	(T)
R11	ERJ3GEYJ272V	CHIP RESISTOR	(T)
R12	ERJ3GEYJ223V	CHIP RESISTOR	(T)
R13	ERJ3GEYJ224V	CHIP RESISTOR	(T)
R14	ERJ3GEYJ183V	CHIP RESISTOR	(T)
R15	ERJ3GEYJ474V	CHIP RESISTOR	(T)
R16	ERJ3GEYJ154V	CHIP RESISTOR	(T)
R17	EXBV8V392JV	CHIP RESISTOR	(T)
R18	ERJ3GEYJ2R2V	CHIP RESISTOR	(T)
R19	ERJ3GEYJ2R2V	CHIP RESISTOR	(T)
R20	ERJ3GEYJ154V	CHIP RESISTOR	(T)
R21	ERJ3GEYJ472V	CHIP RESISTOR	(T)
R25	ERJ3GEYJ562V	CHIP RESISTOR	(T)
R26	ERJ3GEYJ103V	CHIP RESISTOR	(T)
R27	ERJ3GEYJ153V	CHIP RESISTOR	(T)
R28	ERJ3GEYJ101V	CHIP RESISTOR	(T)
R29	ERJ3GEYJ123V	CHIP RESISTOR	(T)
R30	ERJ3GEYJ271V	CHIP RESISTOR	(T)
R31	ERJ3GEYJ271V	CHIP RESISTOR	(T)
R32	ERJ3GEYJ271V	CHIP RESISTOR	(T)
R34	ERJ3GEYJ391V	CHIP RESISTOR	(T)
R35	ERJ3GEYJ105V	CHIP RESISTOR	(T)
R36	ERJ3GEYJ474V	CHIP RESISTOR	(T)
R37	ERJ3GEYJ561V	CHIP RESISTOR	(T)
R38	ERJ3GEYJ474V	CHIP RESISTOR	(T)
R39	ERJ3GEYJ274V	CHIP RESISTOR	(T)
R40	ERJ3GEYJ333V	CHIP RESISTOR	(T)
R41	ERJ3GEYJ333V	CHIP RESISTOR	(T)
R42	ERJ3GEYJ681V	CHIP RESISTOR	(T)
R43	ERJ3GEYJ681V	CHIP RESISTOR	(T)
R44	ERJ3GEYJ105V	CHIP RESISTOR	(T)
R47	EXBV8V474JV	CHIP RESISTOR	(T)
R48	ERJ3GEYJ472V	CHIP RESISTOR	(T)
R49	ERJ3GEYJ153V	CHIP RESISTOR	(T)
R50	ERJ3GEYJ474V	CHIP RESISTOR	(T)
R51	ERJ6GEYF5363	CHIP RESISTOR	(T)
R52	ERJ6GEYD684V	CHIP RESISTOR	(T)
R53	ERJ3GEYJ683V	CHIP RESISTOR	(T)
R54	ERJ3GEYJ152V	CHIP RESISTOR	(T)
R55	ERJ3GEYJ912V	CHIP RESISTOR	(T)
R56	ERJ3GEYD103V	CHIP RESISTOR	(T)
R57	ERJ3GEYD154V	CHIP RESISTOR	(T)
R58	ERJ3GEYJ564V	CHIP RESISTOR	(T)
R59	ERJ3GEYJ4R7V	CHIP RESISTOR	(T)
R60	ERJ3GEYJ473V	CHIP RESISTOR	(T)
R61	ERJ3GEYJ822V	CHIP RESISTOR	(T)
R62	ERJ3GEYJ474V	CHIP RESISTOR	(T)
CHIP JUMPERS			
J1	ERJ3GEY0R00V	CHIP RESISTOR	(T)
CAPACITORS			
C1	ECUVNA105ZFV	CHIP CAPACITOR	(T)
C2	ECUVNA105ZFV	CHIP CAPACITOR	(T)
C3	ECUV1H681KBV	CHIP CAPACITOR	(T)
C4	RCST0GY226RE	TANTALUM CAP.	(T)
C5	ECUV1C223KBV	CHIP CAPACITOR	(T)
C6	RCST0GY226RE	TANTALUM CAP.	(T)
C7	ECUV1H681KBV	CHIP CAPACITOR	(T)
C8	ECUV1H681KBV	CHIP CAPACITOR	(T)
C9	ECUV1C223KBV	CHIP CAPACITOR	(T)
C10	ECUVNC104KBV	CHIP CAPACITOR	(T)
C11	ECUVNC104KBV	CHIP CAPACITOR	(T)
C12	ECUV1H681KBV	CHIP CAPACITOR	(T)

Ref. No.	Part No.	Part Name & Description	Remarks
C13	ECUV1E103KEV	CHIP CAPACITOR	(T)
C14	ECUV1H392KBV	CHIP CAPACITOR	(T)
C15	ECUVNC104KEV	CHIP CAPACITOR	(T)
C16	ECST0GY685R	TANTALUM CAP.	(T)
C17	ECST0GY106R	TANTALUM CAP.	(T)
C18	ECST0GY226R	TANTALUM CAP.	(T)
C19	ECST0GY475R	TANTALUM CAP.	(T)
C20	ECUVNA105ZFV	CHIP CAPACITOR	(T)
C21	ECST1CY225R	TANTALUM CAP.	(T)
C22	ECUVNC104KBV	CHIP CAPACITOR	(T)
C23	ECST1AY335R	TANTALUM CAP.	(T)
C24	ECUVNA334KEV	CHIP CAPACITOR	(T)
C25	ECUV1C123KBV	CHIP CAPACITOR	(T)
C26	ECUV1C123KBV	CHIP CAPACITOR	(T)
C27	ECUVNA224KEV	CHIP CAPACITOR	(T)
C28	ECUV1H102KBV	CHIP CAPACITOR	(T)
C29	ECUV1H102KBV	CHIP CAPACITOR	(T)
C30	ECUVNC334ZFV	CHIP CAPACITOR	(T)
C31	ECUV1C474ZFV	CHIP CAPACITOR	(T)
C32	ECUV1C474ZFV	CHIP CAPACITOR	(T)
C33	ECUVNA105ZFV	CHIP CAPACITOR	(T)
C34	ECUVNA105ZFV	CHIP CAPACITOR	(T)
C35	ECUV1E103KEV	CHIP CAPACITOR	(T)
C36	ECUV1E103KEV	CHIP CAPACITOR	(T)
C37	ECUV1E103KEV	CHIP CAPACITOR	(T)
C39	ECUVNC104ZFV	CHIP CAPACITOR	(T)
C40	ECUV1C474ZFV	CHIP CAPACITOR	(T)
C41	ECUVNA224KEV	CHIP CAPACITOR	(T)
C42	ECUVNC104ZFV	CHIP CAPACITOR	(T)
C43	ECST1AY335R	TANTALUM CAP.	(T)
C44	ECUVNC104ZFV	CHIP CAPACITOR	(T)
C46	ECUV1H681KBV	CHIP CAPACITOR	(T)
C47	ECUV1H681KBV	CHIP CAPACITOR	(T)
C48	ECUVNC104ZFV	CHIP CAPACITOR	(T)
C49	ECUV1H271KBV	CHIP CAPACITOR	(T)
C50	RCST0EX157RE	TANTALUM CAP.	(T)
C51	ECUVNA105ZFV	CHIP CAPACITOR	(T)
C52	RCST0GY476RE	TANTALUM CAP.	(T)
C53	ECUVNA105ZFV	CHIP CAPACITOR	(T)
C54	ECST0GY106R	TANTALUM CAP.	(T)
C55	RCST0GY476RE	TANTALUM CAP.	(T)