

Service Manual

Portable Cassette
RQ-331

Mini Cassette Recorder with Built-in Microphone



RQ-332 MECHANISM SERIES

Specifications (Catalog specifications for sales)

Power requirement:	AC; 120V, 60Hz (with Panasonic AC adaptor RP-63) Battery; 6V (four "AA" size dry batteries) Car battery; with optional car adaptor RP-911 Rechargeable battery; with optional rechargeable battery pack RP-9317
Motor:	Electrical governor motor
Operation:	Push button one-touch recording with Auto-Stop mechanism
Jacks:	MIC in (200~600Ω), DC in (6V), REMOTE, MONITOR (8Ω)
Speaker:	2-1/2" PM dynamic speaker
Dimensions:	6-3/4"(W) × 4"(H) × 2"(D)
Weight:	1-1/2 lbs.

Specifications are subject to change without notice.

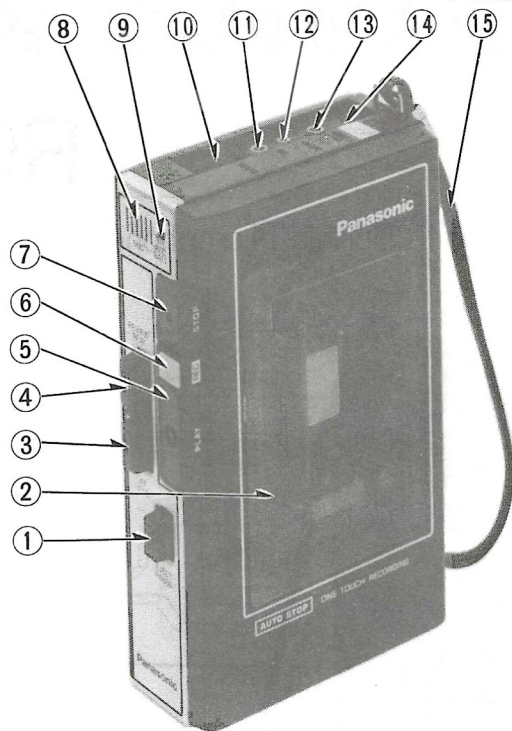
Panasonic®

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RQ-331

LOCATION OF CONTROLS AND COMPONENTS



- ① Pause/eject button
- ② Cassette compartment cover
- ③ Fast forward/cue button
- ④ Rewind/review button
- ⑤ Playback button
- ⑥ Record button
- ⑦ Stop button
- ⑧ Built-in microphone
- ⑨ Battery check lamp
- ⑩ Volume control
- ⑪ External microphone jack
- ⑫ Remote control jack
- ⑬ Monitor jack
- ⑭ External power adaptor jack
- ⑮ Carrying belt

Fig. 1

DISASSEMBLY INSTRUCTIONS

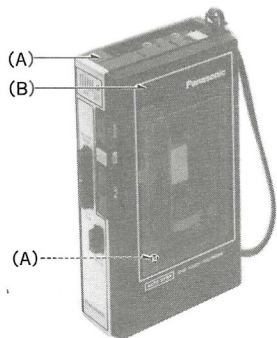


Fig. 2

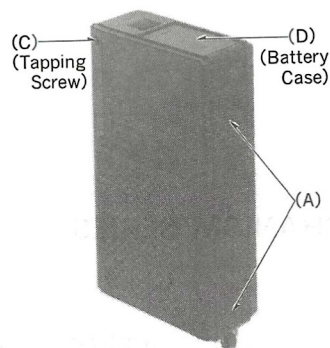


Fig. 3

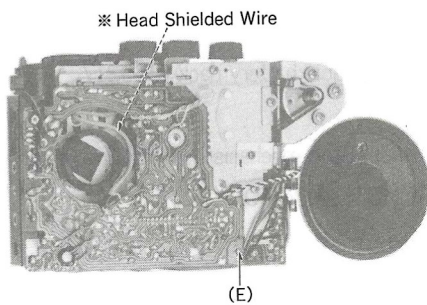


Fig. 4

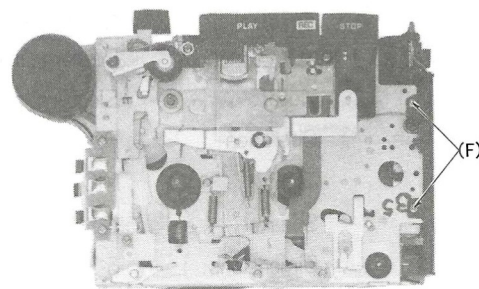
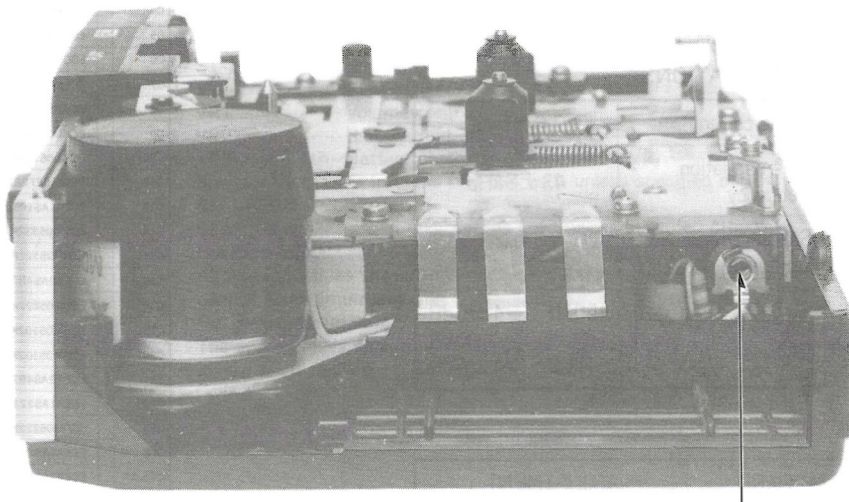
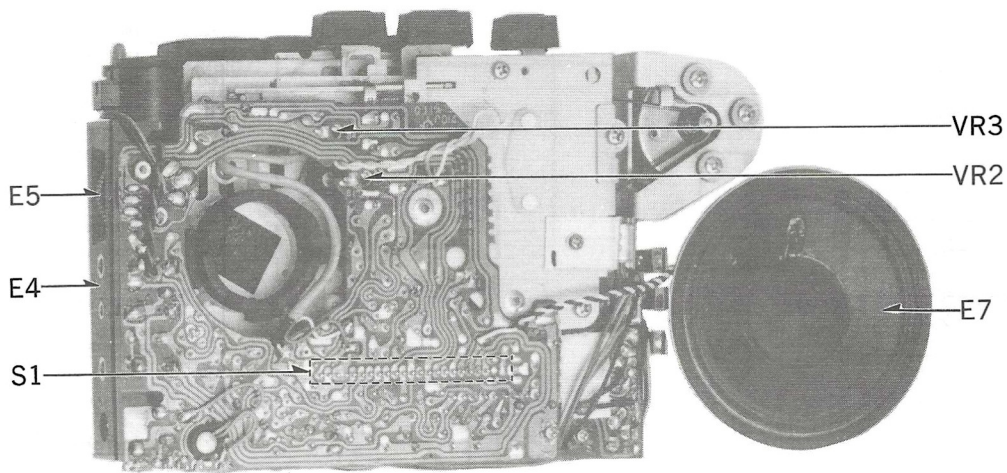
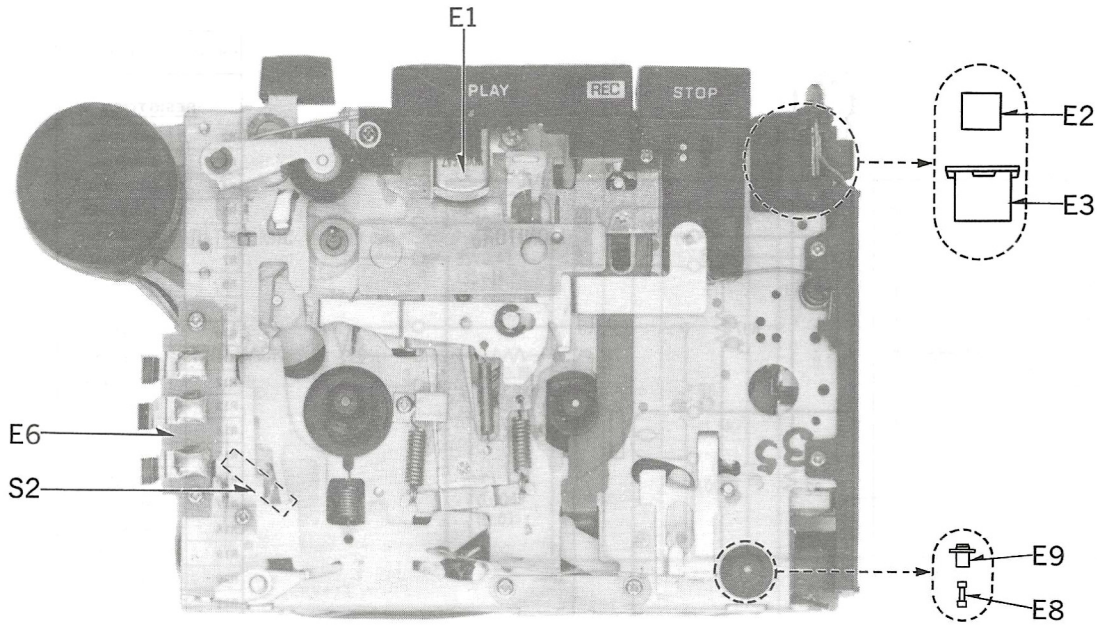


Fig. 5

Procedure	To remove — .	Remove — .	Pcs.	Shown in fig. — .
1	Main case and bottom case assembly	(A), (B), (C), (D)	(4), (1), (1), (1)	2, 3
2	P.C.B.	(E), (F)	(1), (2)	3, 4

※ Note that the head shielded wire must be in the condition shown in fig. 4 when mounting P.C.B.

ELECTRICAL PARTS LOCATION

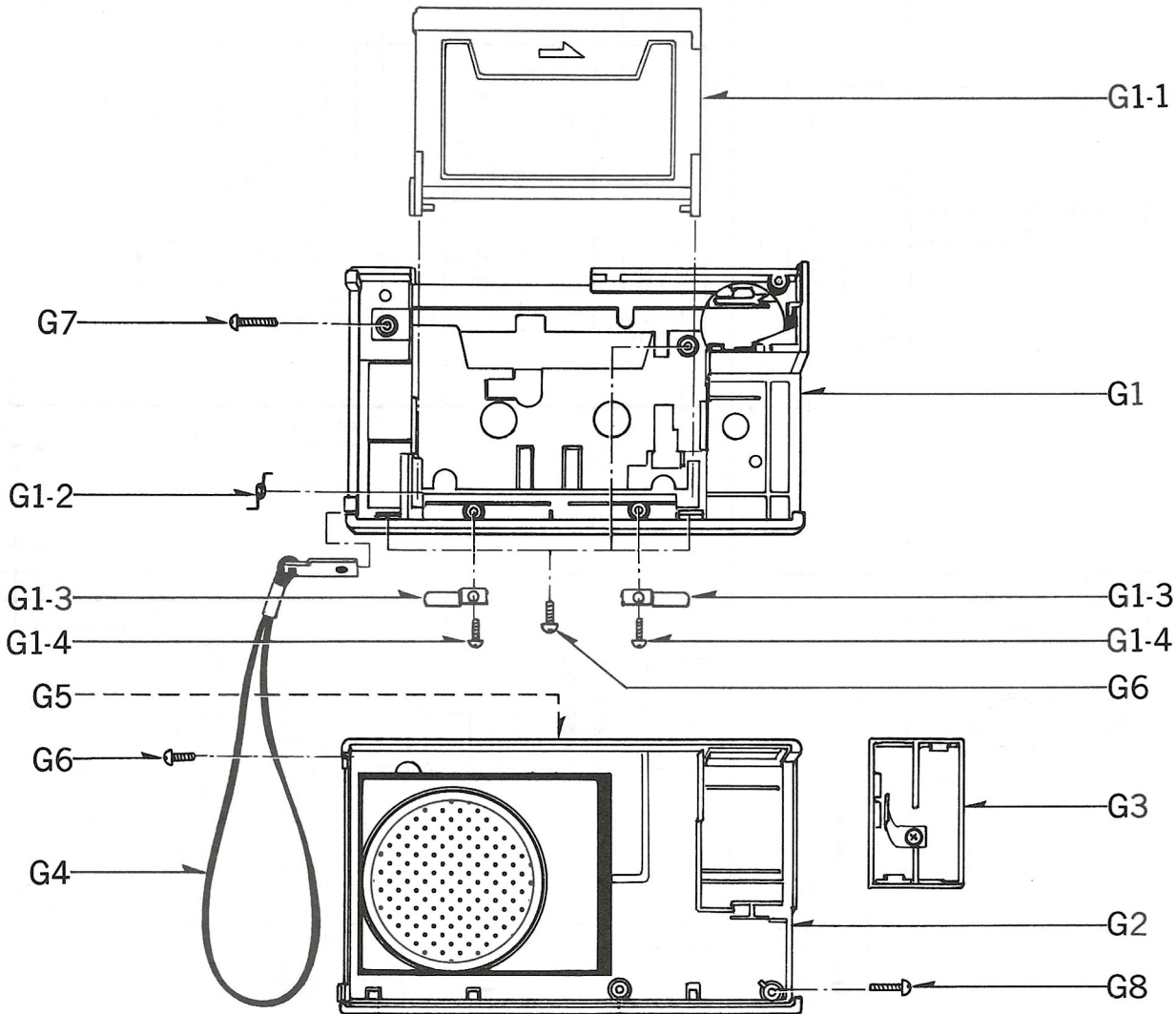


Motor speed adjustment VR.

Ref. No.	Part No.	Part Name & Description
SWITCHES		
S1	QSS8205	Slide Switch (Record/Playback)
S2	QSB0195	Leaf Switch (Power ON/OFF)
ELECTRICAL PARTS		
E1	WY036AZ	Record/Playback/Eraser Head
E2	WM034X	Built-in Microphone
E3	QBG1604	Microphone Cover
E4	QJAA0007	Jack Board
E5	QGTA0003	Volume Knob
E6	QXQA0028	Battery Terminal Assembly
E7	EAS65P87SC	Speaker
E8	XBAQ0005	Fuse
E9	QBGA0035	Fuse Holder

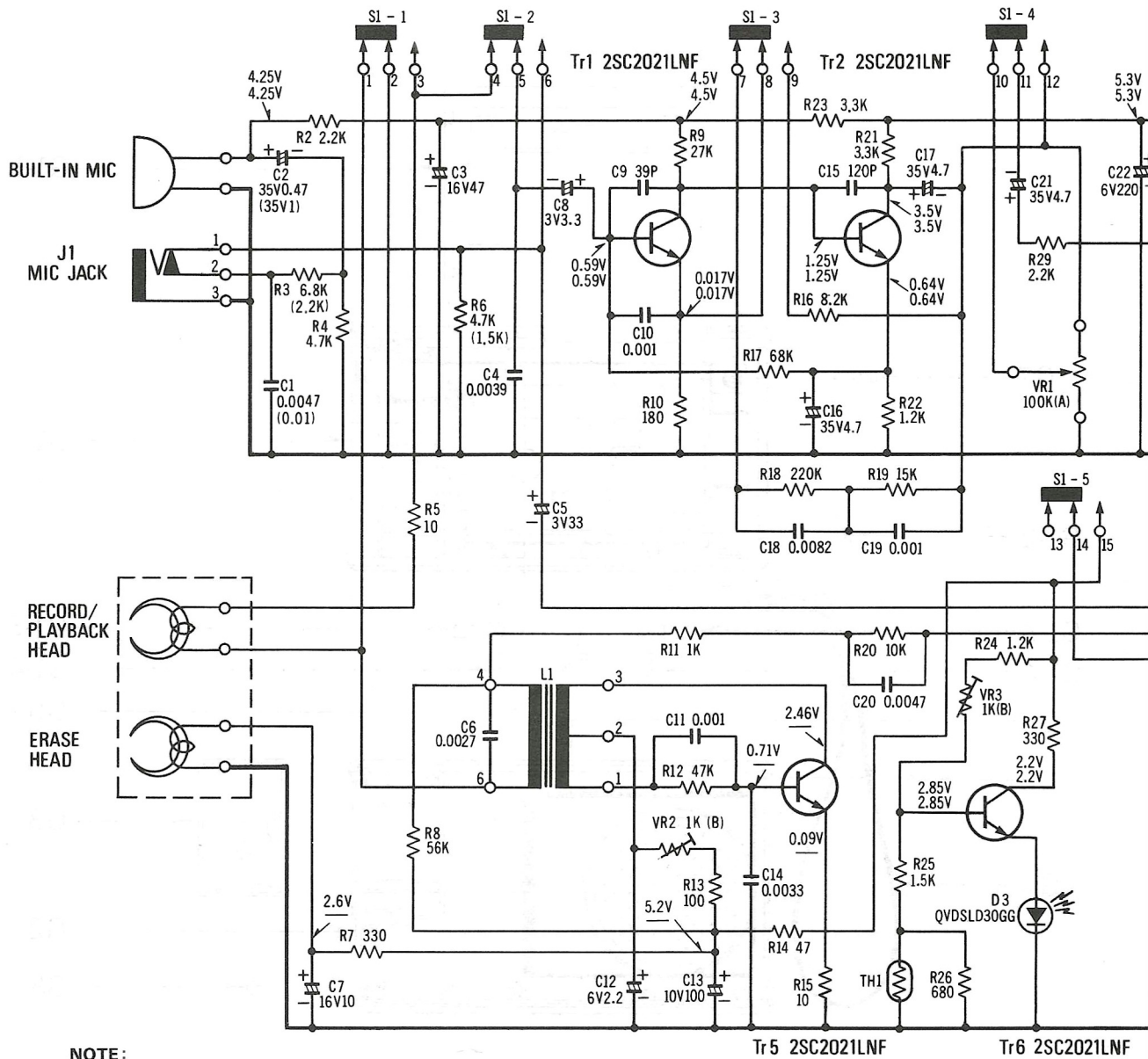
CABINET PARTS

rbon
lyster
ctrolytic
ntalum
ramic



Ref. No.	Part No.	Part Name & Description
CABINET PARTS		
G1	QYMA0066	Main Case Assembly
G1-1	QKFA2001H	Cassette Lid
G1-2	QBN7004	Cassette Lid Spring
G1-3	QBP1377	Lid Holding Spring
G1-4	XTN26+6B	Tapping Screw $\varnothing 2.6 \times 6$
G2	QYFA0067	Bottom Case Assembly
G3	QYFA0003	Battery Case Assembly
G4	QYH0076	Hand Strap
G5	QGSA0030	Main Name Plate
G6	XSS2+8BV	Screw $\varnothing 2 \times 8$ (Black)
G7	XSS2+20BV	Screw $\varnothing 2 \times 20$ (Black)
G8	XTN26+20BFV	Tapping Screw $\varnothing 2.6 \times 20$ (Black)

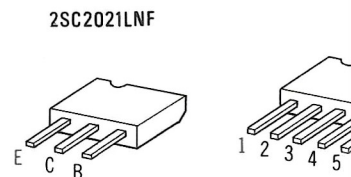
SCHEMATIC DIAGRAM MODEL RQ-331



NOTE :

1. S1-1~S1-7 Record/playback select switch (shown in playback position).
2. S2 Power ON/OFF switch (shown in OFF position).
3. VR1 Volume control.
4. VR2 Bias current adjustment VR.
5. VR3 Battery-check lamp adjustment VR.
6. Resistor values are in ohms (Ω), 1/4 watt unless specified otherwise.
K=1,000 Ω .
7. Capacitor values are in microfarads (μ F) unless specified otherwise.
P=Pico-farads.
8. All voltage values shown in circuitry are under no signal condition with volume control at minimum position.
For measurement, use VTVM.
The upper values should be measured during recording and the lower values during playback.

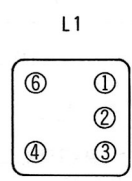
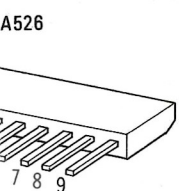
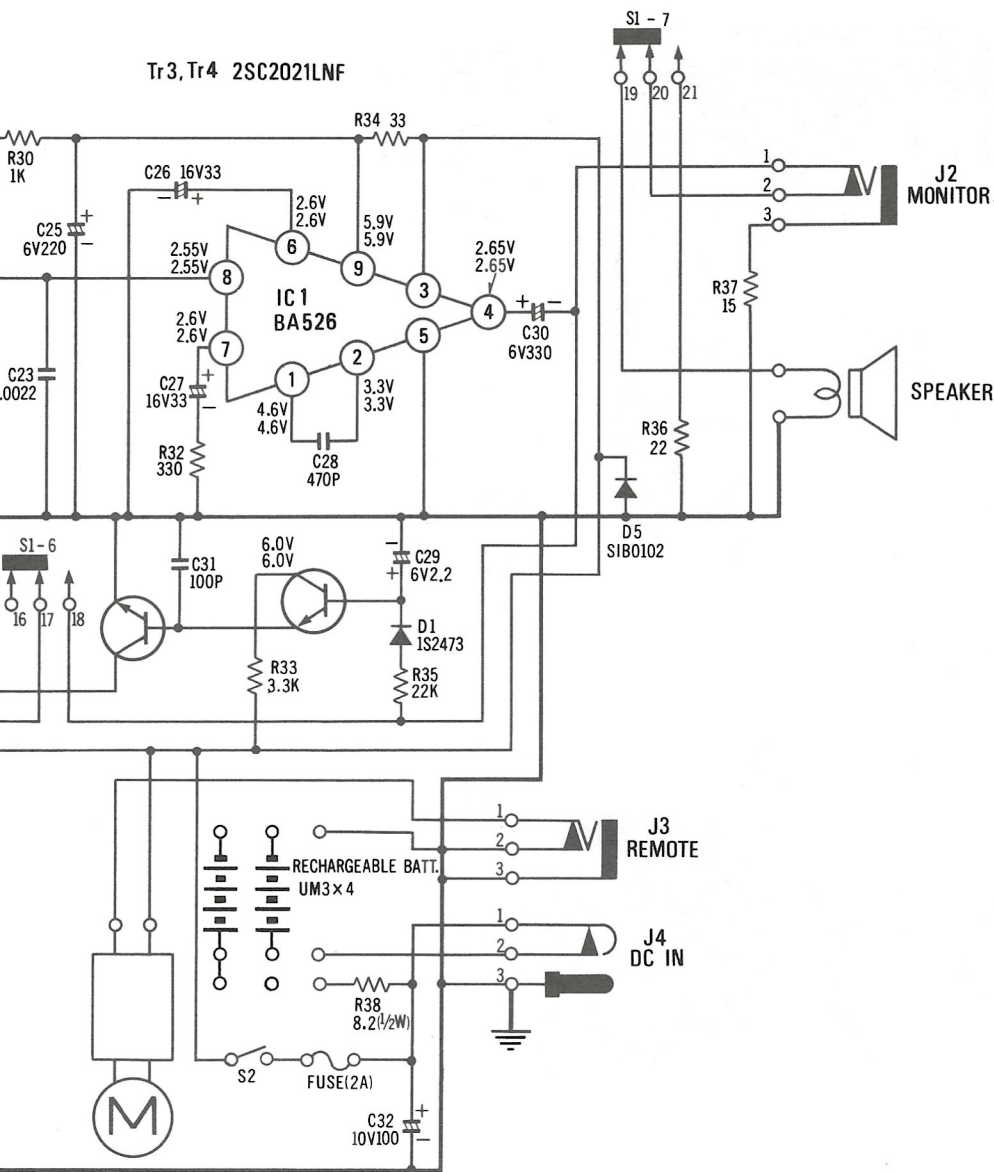
TERMINATIONS (BOTTOM VIEW)



BATTERY-CHECK LAMP ADJUSTMENT

1. Set into playback mode.
2. Supply DC power through DC IN jack.
3. When the power source voltage is 4.4 V, battery-check lamp won't illuminate, a
4. If not within standard, make adjustment by turning VR3 (refer to page 2).

NOTE: RESISTORS ERD Carbon
 CAPACITORS ECQM Polyester
 ECEA Electrolytic
 ECSZ Tantalum
 QCKD Ceramic



SPECIFICATIONS

Erase current	7.6 ± 1 mA
Bias oscillation frequency	43 ± 5 kHz
Standard recording input level	1 kHz -72 ± 4 dB
Overall frequency response	150 Hz: -4 ± 5 dB 1 kHz: 0 dB 6 kHz: -4 ± 6 dB

ADJUSTMENTS

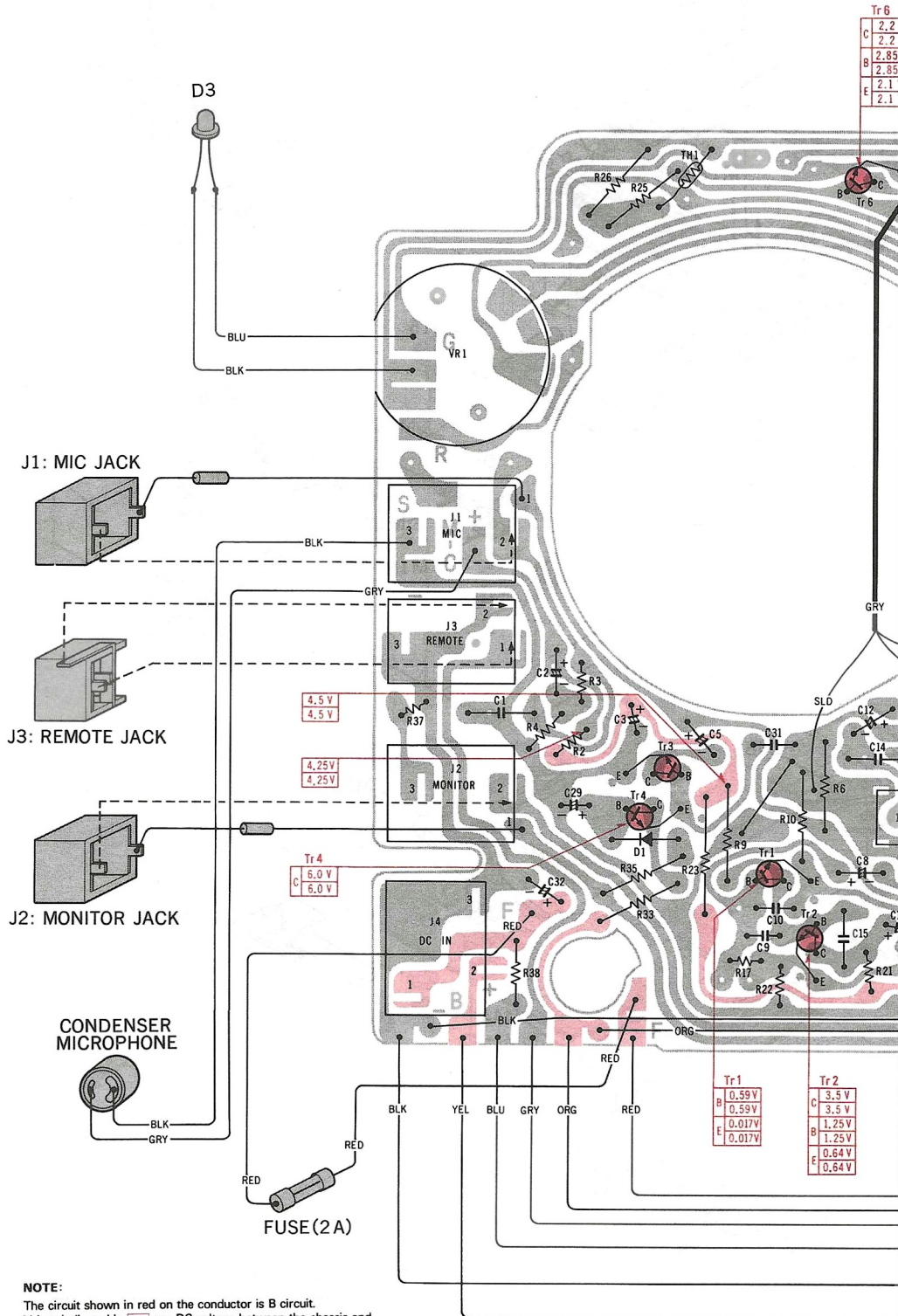
ITEM	STANDARD	ADJUSTMENT
Bias current	0.75 ± 0.05 mA	VR2 (refer to page 2)
Tape speed	3000 Hz ± 2%	Motor speed adjustment VR (refer to page 2)

Ref. No.	Part No.
RESISTORS	
R2	ERD25TJ222
R3	ERD25TJ682
R4	ERD25TJ472
R5	ERD25TJ100
R6	ERD25TJ472
R7	ERD25TJ331
R8	ERD25TJ563
R9	ERD25TJ273
R10	ERD25TJ181
R11	ERD25TJ102
R12	ERD25TJ473
R13	ERD25TJ101
R14	ERD25TJ470
R15	ERD25TJ100
R16	ERD25TJ822
R17	ERD25TJ683
R18	ERD25TJ224
R19	ERD25TJ153
R20	ERD25TJ103
R21	ERD25TJ332
R22	ERD25TJ122
R23	ERD25TJ332
R24	ERD25TJ122
R25	ERD25TJ152
R26	ERD25TJ681
R27	ERD25TJ331
R29	ERD25TJ222
R30	ERD25TJ102
R32	ERD25TJ331
R33	ERD25TJ332
R34	ERD25TJ330
R35	ERD25TJ223
R36	ERD25TJ220
R37	ERD25TJ150
R38	ERD50TJ8R2
VARIABLE RESISTORS	
VR1	EVJA2AT12A14
VR2, 3	EVNK4AA00B13
CAPACITORS	
C1	ECQM05472KZ
C2	ECEA2ASR47
C3	ECEA1AS470
C4	ECQM05392KZ
C5	ECSZ3EF33Q
C6	ECQM05272KZ
C7	ECEA1HS100
C8	ECSZ3EF3R9Q
C9	QCKD05390P
C10, 11	QCKD05102PJ
C12	ECSZ10EF2R2Q
C13	ECEA1AS101
C14	ECQM05332KZ
C15	QCKD05121P
C16, 17	ECEA2AS4R7
C18	ECQM05822KZ
C19	ECQM05102KZ
C20	ECQM05103KZ
C21	ECEA2AS4R7
C22	ECEA1AS221
C23	ECQM05222KZ
C25	ECEA1AS221
C26, 27	ECEA1CS330
C28	QCKD05471P
C29	ECSZ10EF2R2Q
C30	ECEA1CS331
C31	QCKD05101P
C32	ECEA1AS101

when it is 4.5 V it will.

WIRING CONNECTION DIAGRAM

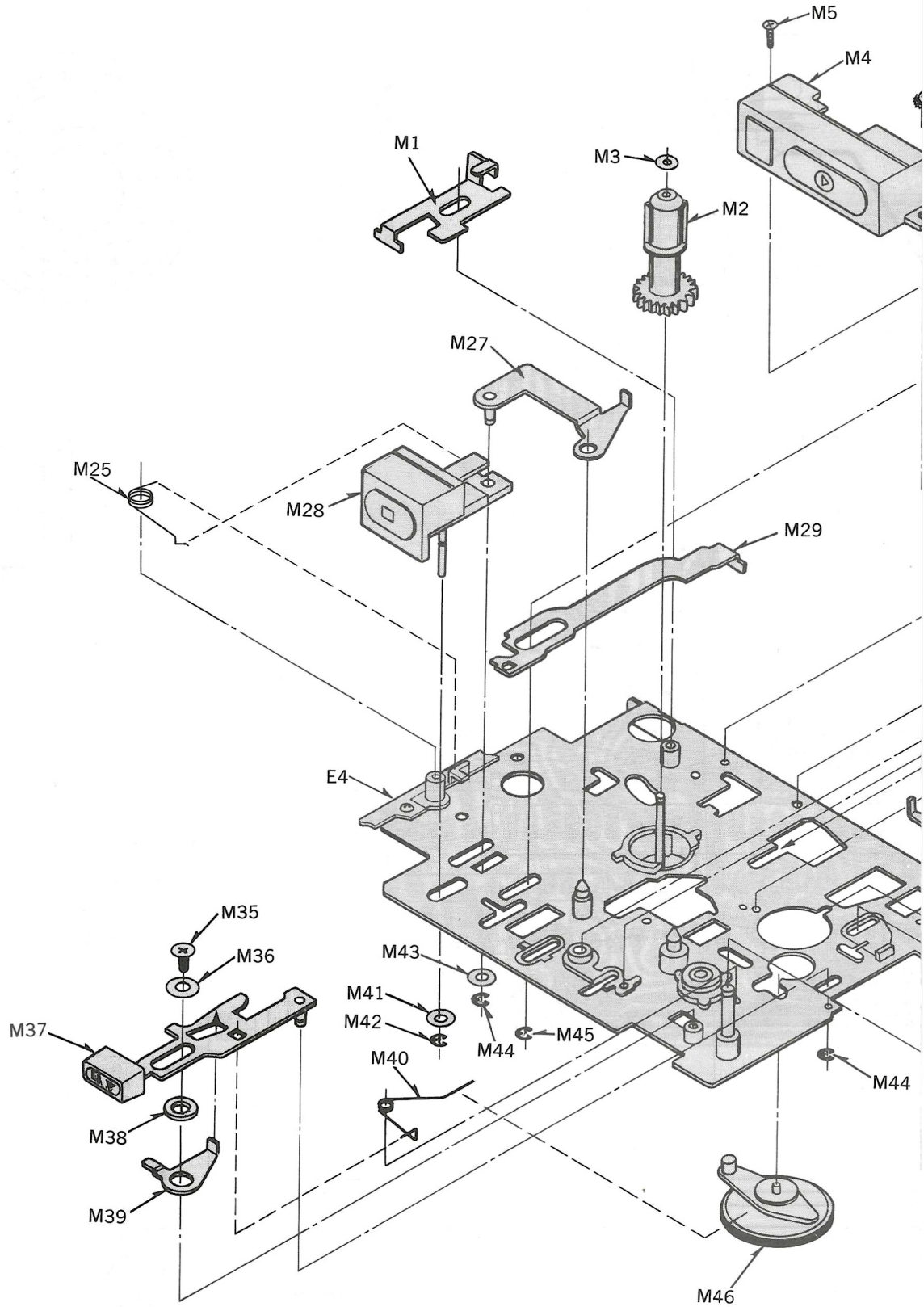
Ref. No.	Part No.	Part Name & Description
TRANSISTORS		
Tr1 2,3 4,5,6	2SC2021LNF	Transistor
INTEGRATED CIRCUIT		
IC1	BA526	Integrated Circuit
DIODES		
D1	1S2473	Diode
D3	QVDSL30UR	Luminous Diode (Red)
D5	SIB0102	Diode
COIL		
L1	QLB0179	Oscillation Coil
THERMISTOR		
TH1	ERTD2FHL102S	Thermistor

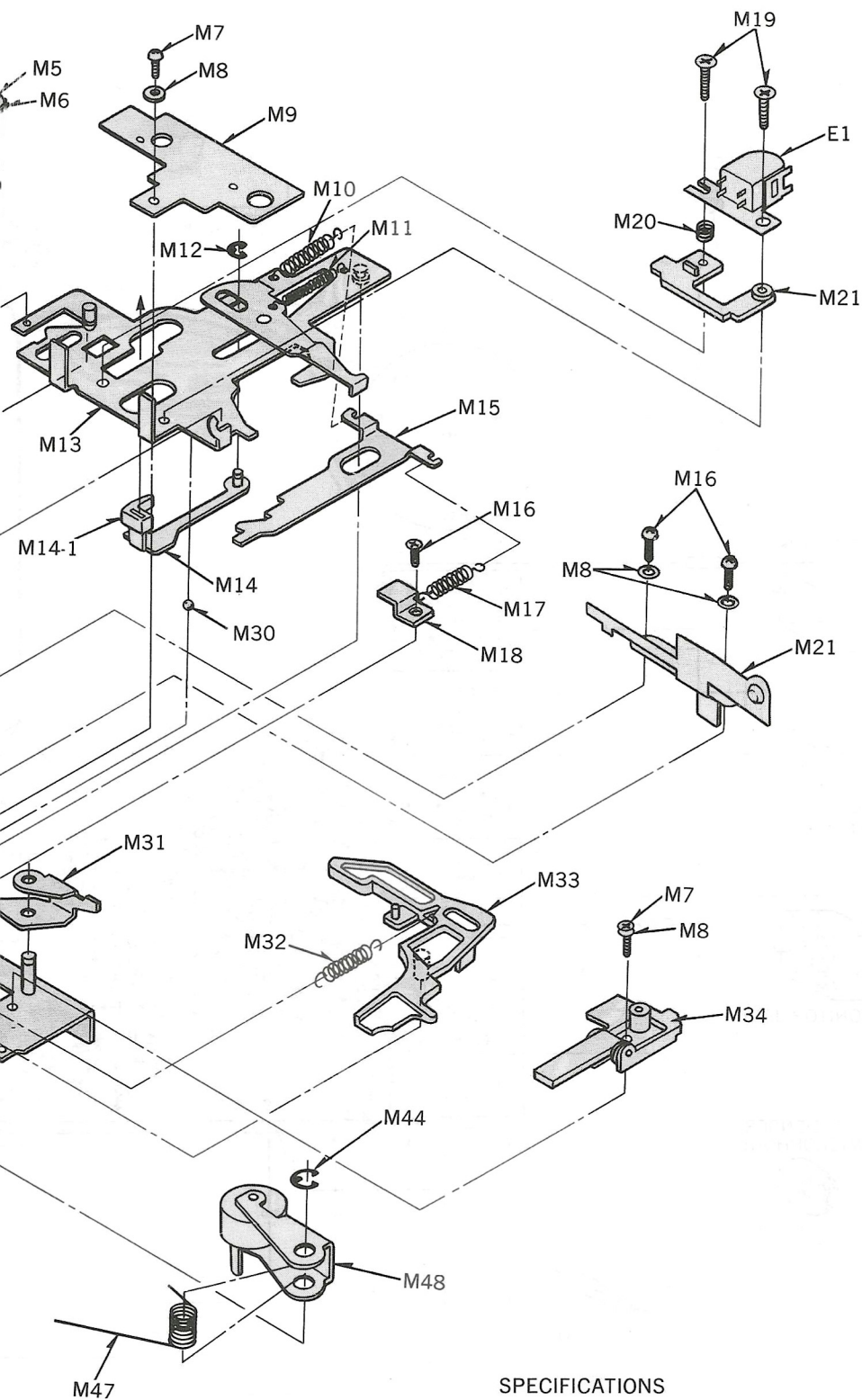


NOTE:
 The circuit shown in red on the conductor is B circuit.
 Values indicated in are DC voltage between the chassis and electrical parts.
 The upper values should be measured during recording and the lower values during playback.

EXPLODED VIEWS

Ref. No.
Tr1 2 3
4 5 6
IC1
D1
D3
D5
L1
TH1



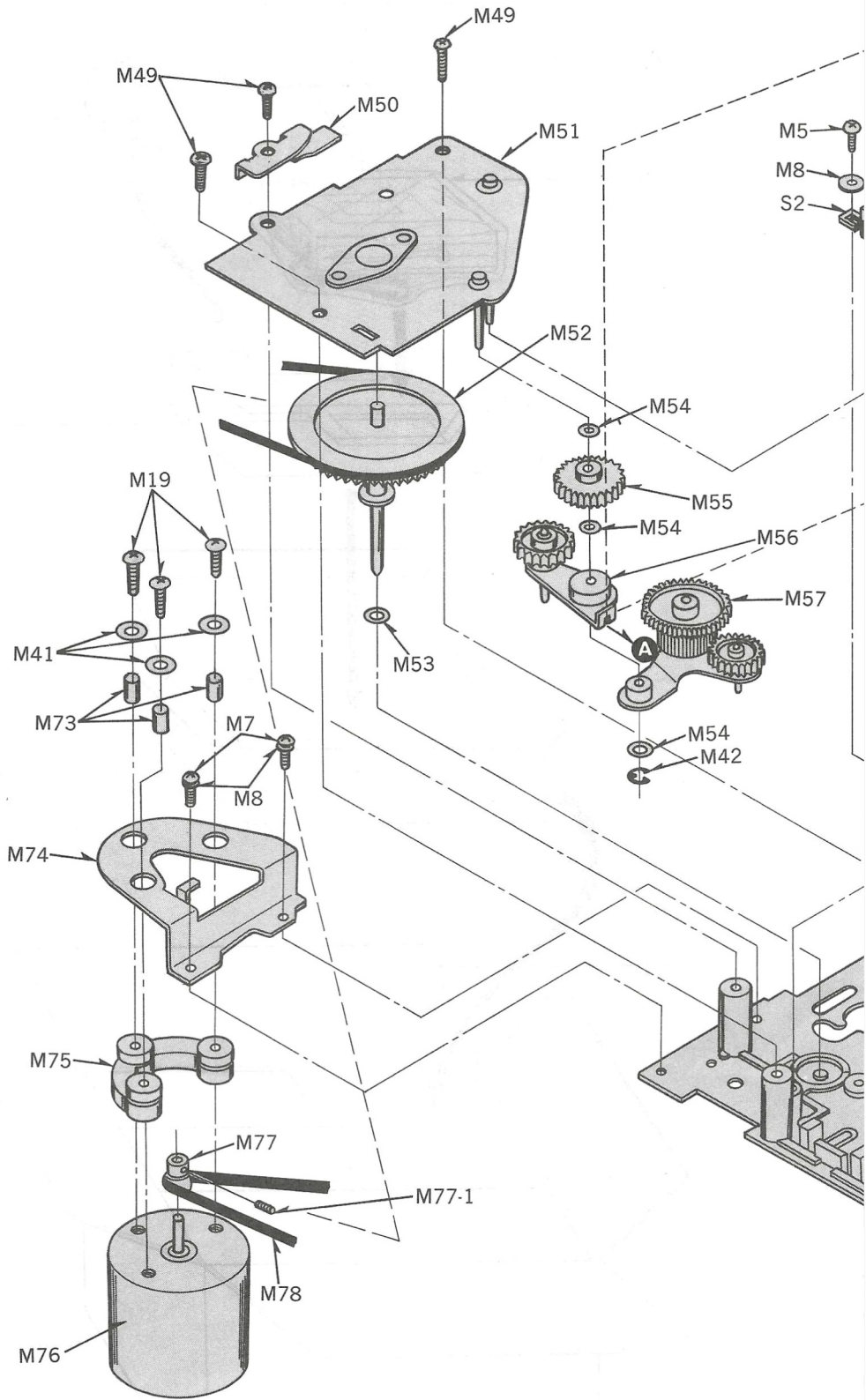


Ref. No.	Part No.	Part Name & Description
MECHANICAL PARTS		
M1	QMR1649	Erase Safety Metal
M2	QXD0086	Supply Reel Table Assembly
M3	QBW2008	Snap Washer
M4	QXB0512	Record/Playback Button Assembly
M5	XSN2+4	Screw $\varnothing 2 \times 4$
M6	XWC2BAW	Lock Washer
M7	XSN2+6	Screw $\varnothing 2 \times 6$
M8	XWA2B	Spring Washer
M9	QBP1783	Head Base Plate Spring
M10	QBT1841	Head Base Spring-A
M11	QBT A0011	Auto-Stop Lever Spring
M12	XUC23FT	Stop Ring 2.3 ϕ
M13	QXK1976	Head Base Plate Assembly
M14	QXHA0021	Detecting Rod Assembly
M14-1	QBJA0051	Detecting Piece
M15	QML3232	Head Base Lock Plate
M16	XSN2+3	Screw $\varnothing 2 \times 3$
M17	QBT1842	Head Base Spring-B
M18	QMH2025	Head Base Plate Retainer
M19	XSN2+7	Screw $\varnothing 2 \times 7$
M20	QBCA0008	Head Spring
M21	QBP1782	Cassette Spring
M22	XSN2+8	Screw $\varnothing 2 \times 8$
M25	QBN1666	Stop Button Spring
M27	QXL1143	Stop Lever Assembly
M28	QXB0511	Stop Button Assembly
M29	QMR1647	Record Rod
M30	QDK1017	Steel Ball
M31	QMLA0059	Cassette Lid Pushing Lever
M32	QBT1840	Eject Lever Spring
M33	QML3241	Eject Lever
M34	QXL1141	Cassette-up Lever Assembly
M35	XSS26+6	Screw $\varnothing 2.6 \times 6$
M36	XWE3E	Washer
M37	QXR0348	Pause Rod Assembly
M38	XW5F10	Washer
M39	QML3231	Pause Lever
M40	QBN1564	Takeup Idler Spring
M41	XWE2D7	Washer
M42	XUC15FT	Stop Ring 1.5 ϕ
M43	QBW2016	Washer
M44	XUC2FT	Stop Ring 2 ϕ
M45	XUC25FT	Stop Ring 2.5 ϕ
M46	QXL1140	Idler Lever Assembly
M47	QBN1563	Pressure Roller Spring
M48	QXL1138	Pressure Roller Lever Assembly

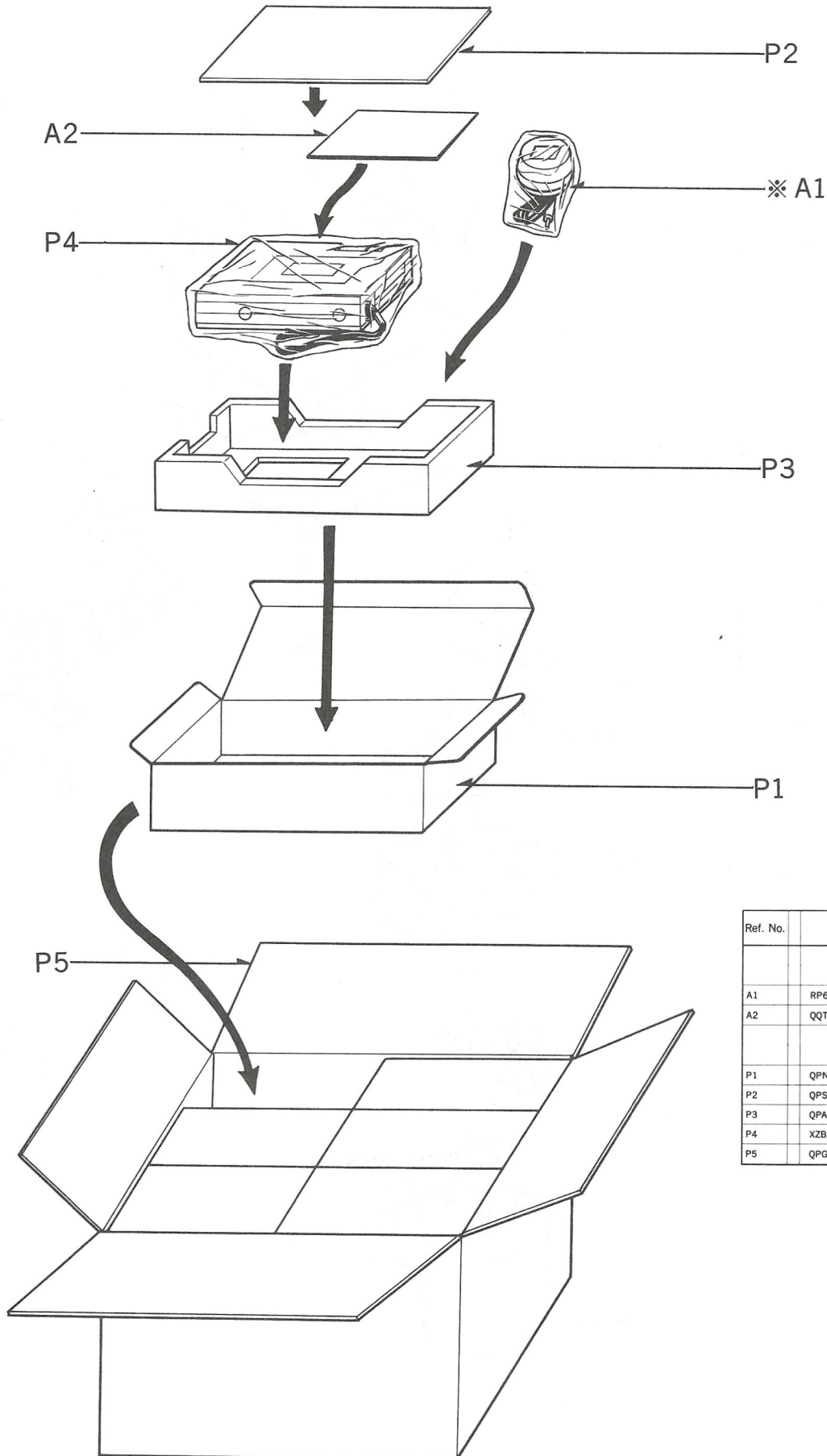
SPECIFICATIONS

Wow and flutter	Less than 0.45% (RMS)
Takeup torque	50 \pm 20 gr
Pressure of pressure roller	400 \pm 50 gr

Ref. No.	Part No.	Part Name & Description
M49	XTN26+8B	Tapping Screw $\Phi 2.6 \times 8$
M50	QMA3325	Belt Holder
M51	QXK1978	Lower Base Plate
M52	QXF0133	Flywheel Assembly
M53	QBW2015	Washer
M54	QBW2012	"
M55	QDG1126	Gear-3
M56	QXL1146	Intermediate Lever-B Assembly
M57	QXL1144	Intermediate Lever-A Assembly
M58	QBCT0010	Back Tension Spring
M59	QWQT0005	Washer
M60	QXD0085	Takeup Reel Table Assembly
M61	XSN2+10	Screw $\Phi 2 \times 10$
M62	QBT1839	Fast Forward Rod Spring
M63	QBT1698	Erase Lever-B Spring
M64	QXA0646	Lock Plate Assembly
M65	QMF1950	Rod Retainer Plate
M64-1	QBT1844	Lock Plate Spring
M66	QGG0106	Fast Forward Rod Guide
M67	QXR0347	Fast Forward Rod Assembly
M68	QXR0346	Rewind Rod Assembly
M69	QBK7124	Washer
M70	QBN1568	Record Lever Spring
M71	QXL1142	Record Lever Assembly
M72	QBG1613	Speaker Cushion
M73	QMC0083	Motor Collor
M74	QMH2026	Motor Holder
M75	QBG1610	Motor Rubber
M76	MDE5H6RSB	Motor
M77	QXP0568	Motor Pulley Assembly
M77-1	XXA2D2FR	Hexagon Screw
M78	QDB0242	Flywheel Belt
M79	XUC3FT	Stop Ring 3ϕ
M80	QBK7007	Washer
M81	QBP1135	Spring Washer
M82	QBN1565	Intermediate Lever Spring
M83	QML3238	Rewind Rod Lever



COMPONENT PACKING



Ref. No.	Part No.	Part Name & Description
ACCESSORIES		
A1	RP63XP	AC Adaptor
A2	QQT2237	Instruction Book
PACKINGS		
P1	QPNA0070	Inside Carton
P2	QPSA0014	Pad
P3	QPAA0041	Cushion
P4	XZB18X30A05	Poly Bag
P5	QPGA0062	Master Carton

※ AC adaptor, RP-63XP is not serviceable.

Printed in Japan.