Accessories

Parts No.	Parts Name	Remarks	Q'ty
VJY4005-00A	Microphone Ass'y		1
VJY4004-00B	Plug Cord Ass'y		1
VJY4002-001	Wind Screen		2
VJY4006-00A	Headphone Ass'y		1
VJY4003-00B	Case Ass'y		1
VJH4037-00A	Hand Strap Ass'y		1
VYA4001-00A	Head Cleaning Stick		1
VGW12L2-J01	Cassette Tape		1
VJH4040-00A	Belt Ass'y		1
VNM0855-901	Instruction Book	MQ-5K(B/E/C/J)	1
VNM0856-901	"	MQ-5K(U)	1
BT-20047	Warranty Card	MQ-5K(J)	1
BT-20025D	"	MQ-5K(C)	1
BT-20046	Special Reply Card	MQ-5K(J)	1
BT-2044B	Safety Instruction	MQ-5K(J)	1
E66416-003	Envelope	for Warranty Card MQ-5K(J)	1
53866-2	Label	MQ-5K(U/E/B)	1
BT-20013C	Guaranty Certificate	MQ-5K(B)	1

JVC

VICTOR COMPANY OF JAPAN, LIMITED.
RADIO & RECORDING MACHINE DIVISION 10-1, 1-chome, Ohwatari-cho, Maebashi-city 371, Japan

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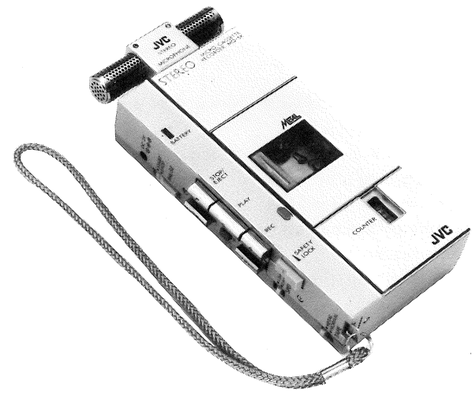
JVC

SERVICE MANUAL

MODEL

MQ-5K

STEREO MICRO
CASSETTE RECORDER



No. 1472
March 1982

Contents

Features

1. Microcassette recorder for stereo recording as well as stereo playback.
   - Live recording possible with stereo microphone which clips on the recorder.
   - Lightweight stereo headphones provided.
   - Line in jack for the connection of stereo source.
   - Cord provided for connection of stereo source for recording.
2. Handy construction allows one hand recording
   - Easy-to-use one-touch recording system
   - ALC (Automatic Level Control) automatically optimizes recording level.
   - Variable monitor system
3. Metal tape compatible
   - Tape select switch with normal tape and metal tape positions
   - Safety lock switch prevents accidental operation of the recording button.
   - Cue and review facilities
   - Silent stop mechanism
   - Pause mechanism
   - Two recording speeds

Specifications

Type	: Stereo microcassette recorder	
Track system	: 4-track, 2-channel stereo	
Erasing system	: Magnet	
Type of tape	: Microcassette	
Wow & flutter	: 0.15% (WRMS)	
Fast forward time	: Approx. 2 mins (2.4 cm/sec) (MC-60)	
	Approx. 4 mins (1.2 cm/sec) (MC-60)	
Frequency response	: 150–10,000 Hz (with metal tape)	
(2.4 cm/sec)	150– 8,000 Hz (with normal tape)	
Input terminals	: Mic (stereo mini plug 3.5 ϕ)	
	Minimum input level; 0.5 mV, –66 dBV	
	Low impedance; 200 Ω – 2 kΩ	
	LINE IN (mini plug 3.5 ϕ)	
	Minimum input level; 150 mV	
	Impedance; 100 kΩ	
Output terminals	: Headphone (stereo mini plug 3.5 ϕ)	
	Matching impedance; 8 Ω – 32 Ω	
Maximum output power	: 10 mW + 10 mW (at 32 ohms)	
Power requirements	: DC 3 V (two batteries, size AA[R6])	
	Ext. DC (3 V)	
Dimensions	: 68(W) x 128(H) x 28.5(D) mm	
	(2-3/4" x 5-1/8" x 1-1/4")	
Weight	: About 230 g (0.5 lbs)	
	(without batteries)	
Accessories	: Demonstration tape	x 1
	Head cleaner (cotton tip)	x 1
	Carrying belt	x 1
	Stereo headphones	x 1
	Stereo microphones	x 1
	Wrist strap	x 1
	Carrying frame	x 1
	Carrying case	x 1
	Windscreen	x 2
	Connection cord (LINE)	x 1
	(stereo mini ↔ pin plug x 2)	

Option

Microcassette tape : (Metal tape) MC-60ME, MC-46ME
(Normal tape) MC-60SF, MC-46SF, MC-60LN

Design and specifications subject to change without notice.

Cassette Holder Assembly

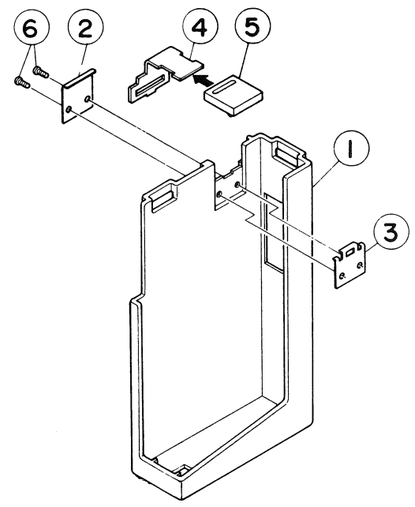
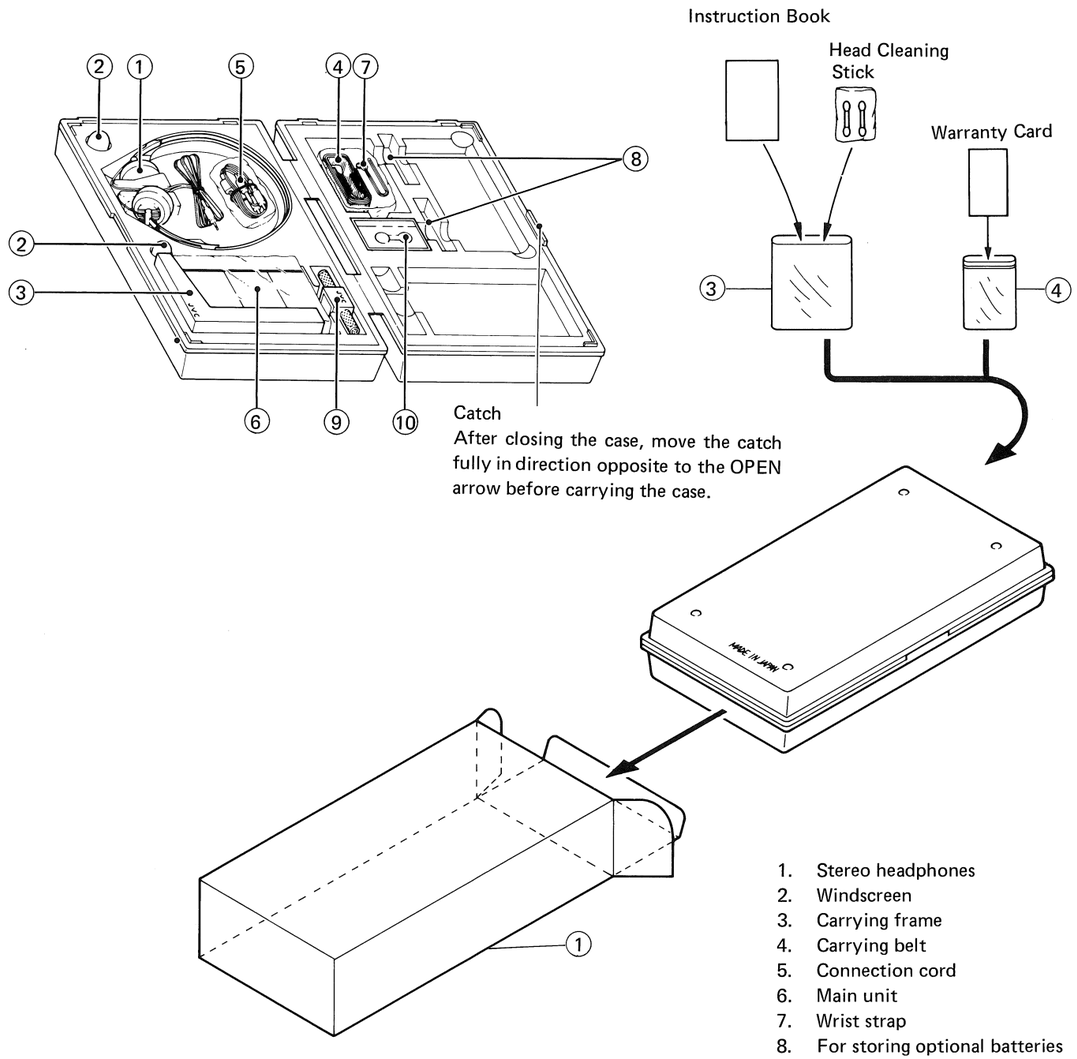


Fig. 17

Cassette Holder Assembly Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	VJD1106-002	Set Holder		1
2	VJD4544-003	Stand Spring		1
3	VJD4554-002	Stand Holder		1
4	VJD4572-001	Hold Plate		1
5	VJD4573-002	Hold Pad		1
6	SPSK1730N	Mini Screw		2

Packing



1. Stereo headphones
2. Windscreen
3. Carrying frame
4. Carrying belt
5. Connection cord
6. Main unit
7. Wrist strap
8. For storing optional batteries
9. Stereo microphone
10. Demonstration tape

Fig. 16

Packing Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	VPD5077-J03	Carton	MQ-5K(J/U/E/B)	1
	" -J05	"	MQ-5K(C)	1
2	QPGA010-02003	Poly Bag	for Unit	1
3	QPGB017-02404	"	for Accessories	1
4	QPGB010-02004	"	for Warranty Card	1

Names of Parts

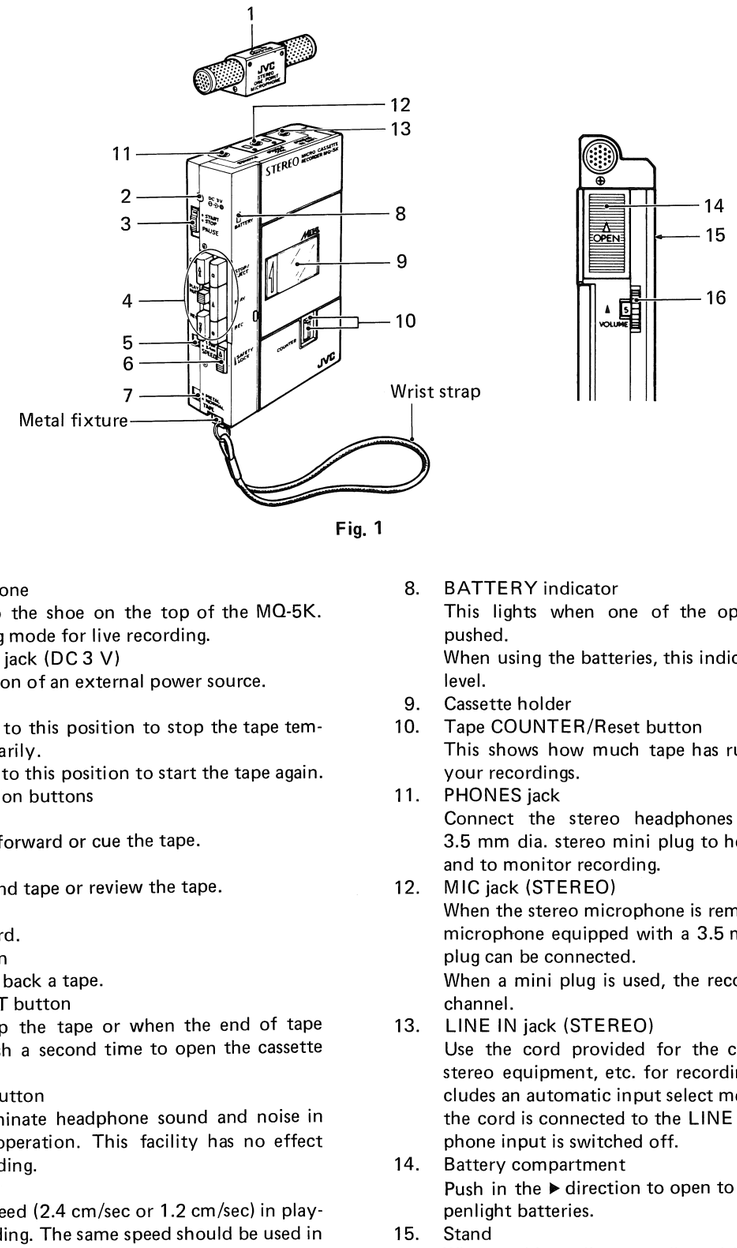


Fig. 1

1. Stereo microphone
   This snaps into the shoe on the top of the MQ-5K. Set to recording mode for live recording.
2. External power jack (DC 3 V)
   This is connection of an external power source.
3. PAUSE switch
   STOP : Set to this position to stop the tape temporarily.
   START : Set to this position to start the tape again.
4. Cassette operation buttons
   ◀◀ CUE button
   Push to fast forward or cue the tape.
   ▶▶ REW button
   Push to rewind tape or review the tape.
   ● REC button
   Push to record.
   ◀ PLAY button
   Push to play back a tape.
   ■ STOP/EJECT button
   Push to stop the tape or when the end of tape reached; push a second time to open the cassette holder.
   PLAY MUTE button
   Push to eliminate headphone sound and noise in cue/review operation. This facility has no effect on the recording.
5. SPEED selector
   Use to select speed (2.4 cm/sec or 1.2 cm/sec) in playback and recording. The same speed should be used in both recording and playback.
6. SAFETY LOCK switch
   When this is pushed in the ▶ direction, the ● REC button cannot be pushed so that the recording mode cannot be entered accidentally.
7. TAPE select switch
   Set to METAL or NORMAL to correspond to the tape being used when recording.
8. BATTERY indicator
   This lights when one of the operation buttons is pushed.
   When using the batteries, this indicates battery power level.
9. Cassette holder
10. Tape COUNTER/Reset button
    This shows how much tape has run. Use it to index your recordings.
11. PHONES jack
    Connect the stereo headphones provided with a 3.5 mm dia. stereo mini plug to hear playback sound and to monitor recording.
12. MIC jack (STEREO)
    When the stereo microphone is removed, any optional microphone equipped with a 3.5 mm dia. mini stereo plug can be connected.
    When a mini plug is used, the recording is on the left channel.
13. LINE IN jack (STEREO)
    Use the cord provided for the connection of your stereo equipment, etc. for recording. The MQ-5K includes an automatic input select mechanism and when the cord is connected to the LINE IN jack, the microphone input is switched off.
14. Battery compartment
    Push in the ▶ direction to open to insert two AA(R6) penlight batteries.
15. Stand
    When making a live recording with the stereo microphone, pull this out so that the MQ-5K is inclined towards the sound source.
16. VOLUME control
    Adjust headphone volume. Turn in the ▶ direction to increase the volume.

Removal of the Main Parts

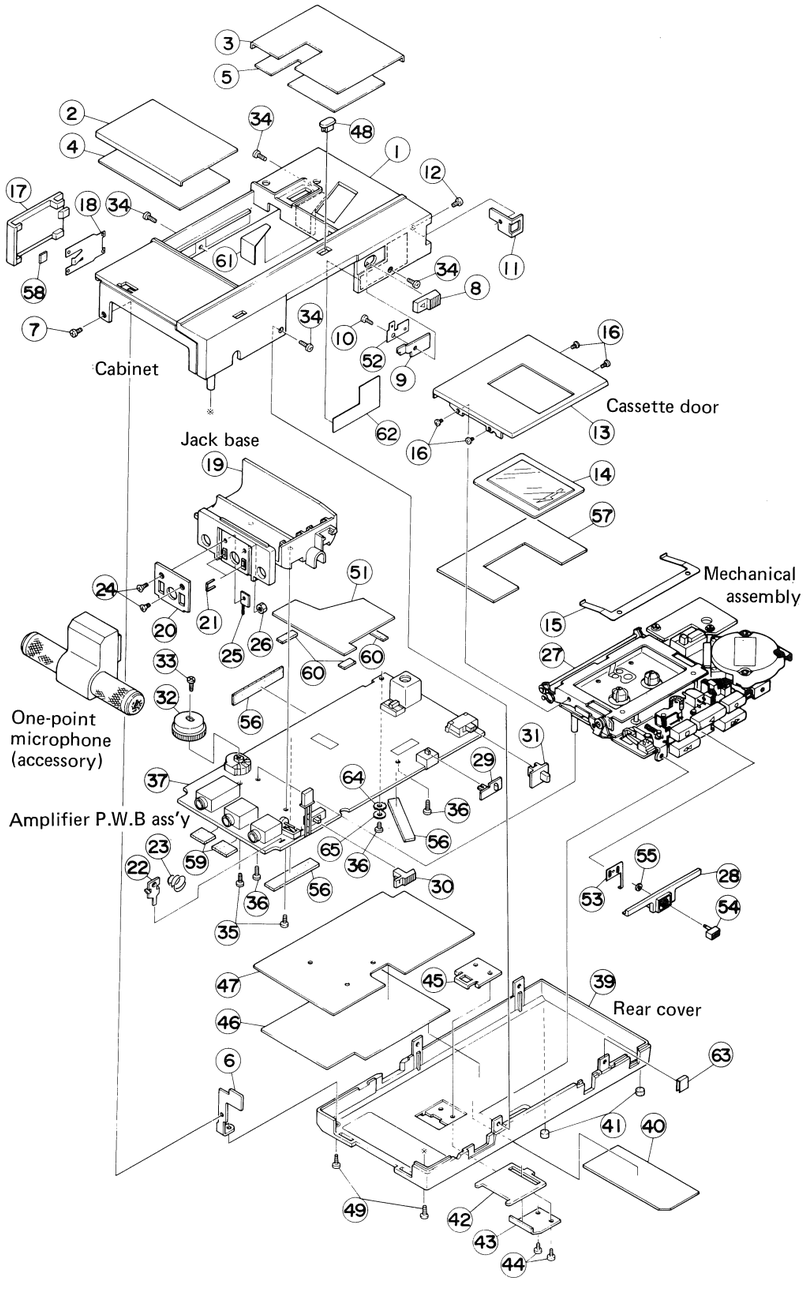


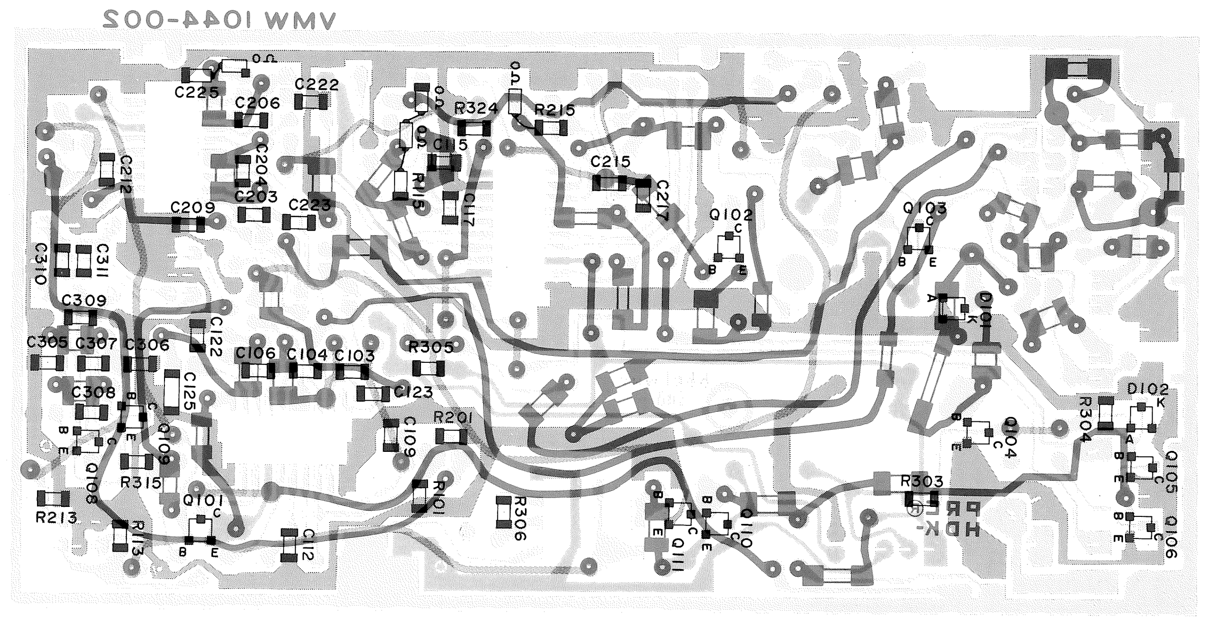
Fig. 2

Amplifier P.W. Board Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	VMW1044-002	P.W. Board	No supply as parts ass'y	1
Q101	2SD709(Q,R)	Transistor		1
Q102–105, 108–111	2SD601(Q,R)	"		8
Q106	2SD813(Q,R)	"		1
D101, 102	MA152K	Diode		2
C102, 202	QEK41HM-224	E. Capacitor	0.22 μF 50 V	2
C103,203,106,206,117,217	QCS81HJ-681	C. Capacitor	680 pF "	6
C104, 204	QCY81HK-123	"	0.012 μF "	2
C105,205,108,208,304,312, 318	QEK41CM-106	E. Capacitor	10 μF 16 V	7
C107, 207, 114, 214	QEK41HM-474	"	0.47 μF 50 V	4
C109,209,122,222,125,225	QCY81HK-472	C. Capacitor	0.0047 μF "	6
C110, 210	QEK41HM-225	E. Capacitor	2.2 μF "	2
C111, 211, 124, 224	" -105	"	1 μF "	4
C112, 212	QCY81HK-272	C. Capacitor	0.0027 μF "	2
C113, 213, 313, 320	QEK40GM-476	E. Capacitor	47 μF 4 V	4
C115, 215	QCY81HK-102	C. Capacitor	0.001 μF 50 V	2
C116, 216	QEK40GM-336	E. Capacitor	33 μF 4 V	2
C118, 218, 303	QEK40JM-226	"	22 μF 6.3 V	3
C119, 219	QEK41EM-335	"	3.3 μF 25 V	2
C120, 220	QEK41HM-104	"	0.1 μF 50 V	2
C121, 221, 301	QEK40GM-107	"	100 μF 4 V	3
C123, 223	QCS81HJ-101	C. Capacitor	100 μF 50 V	2
C302, 317	QET40GR-477S	E. Capacitor	470 μF 4 V	2
C305–308, 310, 311	QCY81HK-332	C. Capacitor	0.0033 μF 50 V	6
C309	" -103	"	0.01 μF "	1
C314, 316	QEK40GM-227	E. Capacitor	220 μF 4 V	2
C315	QET40GR-108S	"	1000 μF "	1
R101, 201	ERJ-8GCQM106	M.G. Resistor	10 MΩ	2
R113, 213	QRS188J-681	"	680 Ω 1/8 W	2
R115, 215	" -152	"	1.5 kΩ "	2
R303	" -124	"	120 kΩ "	1
R304	" -105	"	1 MΩ "	1
R305	" -220	"	22 Ω "	1
R306	" -332	"	3.3 kΩ "	1
R315	" -2R2	"	2.2 Ω "	1
R324	" -470	"	47 Ω "	1
	" -0R0	"	0 Ω "	5
IC101, 201	M51141P-707	IC		2
IC103	TK10360F	"		1
	VYSP1R5-025	Spacer		1
L101	VQH1009-023	OSC Coil		1
S101	SSS322	Slide Switch		1
S102	QSS2201-025	"		1
S103, 104	QSS1201-024	"		2
J101, 102	QMS3504-002	Jack		2
J103	QMS3505-001	"		1
J104	QMA0321-002	"		1
VR101	QVZ1001-001	V. Resistor		1
VR102	QVZ3602-102	"	1 kΩ	1
VR103	QVZ3602-152	"		1
VR104	" -103	"	10 kΩ	1
VR105	" -472	"	4.7 kΩ	1
D104	GL-9PR2	LED		1
[Photocoupler]				
	VMW3166-002	P.W. Board		1
	QVZ3602-474	V. Resistor		1
	ON2160(R)	Photocoupler		1

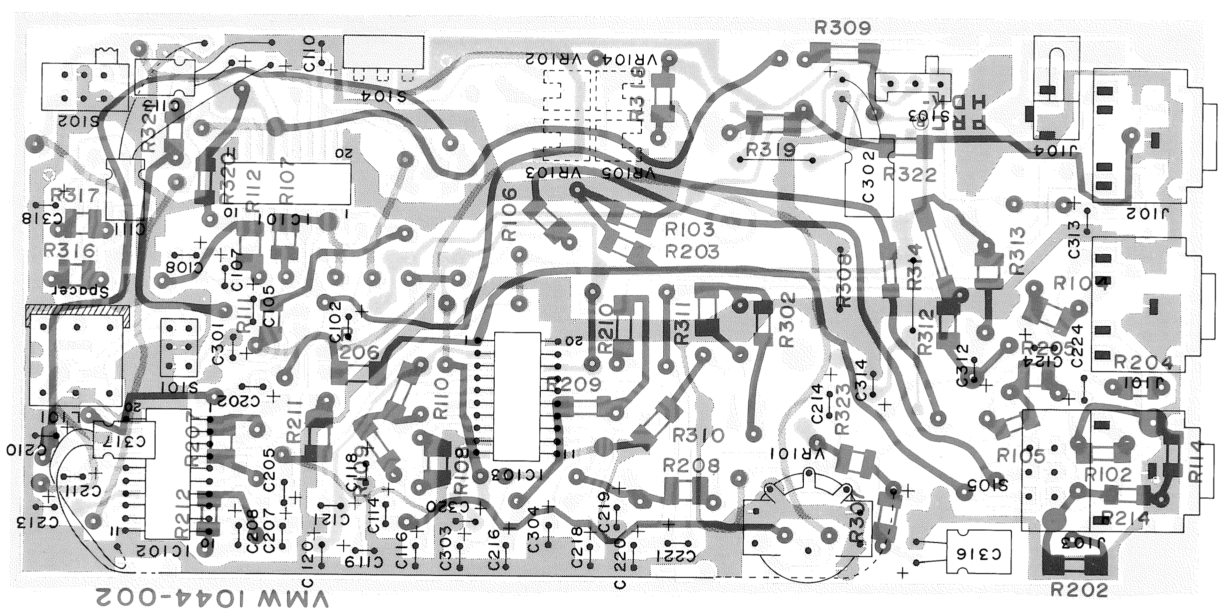
Amplifier P.W. Board Parts

Pattern Side View



+B line
Earth line

Parts Ass'y Side View



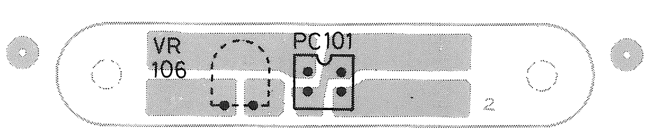


Fig. 15

1. Removal of rear cover ㊴

(1) Remove two screws SPSK1735N ㊾ in the back.

(2) Remove four screws SPSK1735N ㉞ in the side. Thereupon, the rear cover can be removed. Thus, it is possible to replace any chip element on the pattern and to make adjustment by semi-fixed VRs. (The push-buttons of the PAUSE, SPEED and TAPE switches can also be removed.)

Note: When reassembling, insert the push-buttons in advance.

2. Removal of cabinet case ①

(1) Remove four screws SSSK1413M ⑯ in cassette door ⑬ , then remove cassette door.

(2) Remove this case and the amp board and the mechanism from the counter side in advance. ↗

↙ **3. Removal of amp board** ㊲ **and mechanism** ㉗

(1) Remove three screws SPSK1735N ㊱ in the pattern side, take out the wire clamp, then disassemble the amp board and the mechanism, avoiding contact ㊿③ of the PLAY MUTE switch. When reassembling, set the REC/PLAY switch (S101) to PLAY (the side opposite to IC101) so that it is positively switched over to REC by operating the REC button.
Refer to the diagram below, for handling the wires in the pattern side.

4. Removal of jack base ⑲

(1) Release battery contact ㉒ and battery spring ㉓ in the pattern side from soldered joint.

(2) Release the LED from soldered joint, then remove two tapping screws F00410-74N ㉟ .

PRECAUTIONS IN REASSEMBLY

- This unit has little spacial margin between the cabinet, rear cover, amp board and tape transport mechanism. Therefore, when replacing a component or reassembling the disassembled unit, suppress the quantity of the attached solder to less than 1 mm high and be careful not to make its contact with components in between. Moreover, hold down any bunch of wires with spacers not to touch any other bunch of wires.

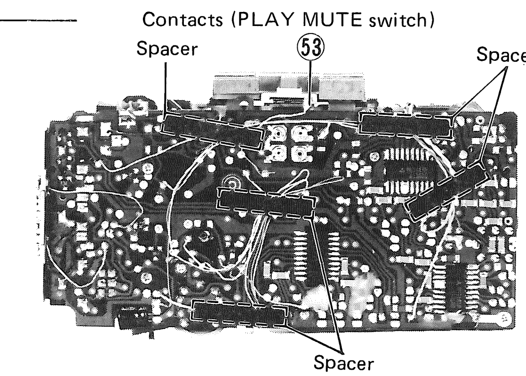


Fig. 3

■ List of Mini-screws for Mechanism

Refer to this list together with "Mechanical Component Parts" (Page 14)

Type	Ref. No.	Part No.	Designation	Ref. length (mm)
Flat head screws for precision machines	123	SSSK1414N	M1.4	1.4
	124	SSSK1425M	M1.4	2.5
	125	SSSK1725M	M1.7	2.5
Pan head screws for precision machines	116	SPSK1420M	M1.4	2.0
	117	SPSK1425M	M1.4	2.5
	118	SPSK1450M	M1.4	5.0
	119	SPSK1716M	M1.7	1.6
	120	SPSK1725M	M1.7	2.5
	121	SPSK1740M	M1.7	4.0
	122	SPSK1750M	M1.7	5.0
	115	SPSH1435M	M1.4	3.5

Servicing for MQ-5K

■ **Servicing of Chip Elements**

The chip resistors and capacitors used in MQ-5K are the same as those in HK-7 except for R101 and 201 rated 10 MΩ. Accordingly, when replacing any of these same elements, it is possible to select an element with the same rating as this replaced element from the kit of chip elements used in Video Camera GX-V7.

A chip element of this kit cannot be employed as a substitute for the discrete component, since it does not provide sufficient spacial distance.

As the chip element replacing method and tools are the same as in HK-7.

■ **Adjustment Tools of Semi-fixed VRs (VR102–106)**

These VRs are slightly different in shape from those conventional.

Although these VRs can also be adjusted by a small screwdriver, Mitsumi RG4L is available as the exclusive screwdriver.

Removal of the Mechanical Parts

See the exploded view of the cassette mechanism ass'y on page 14 together.

1. Removal of REC/PB head ① and erase head ② (Fig. 4)

- REC/PB head:
  Remove two screws ③ and ④ , then release the wire from the soldered joint.
- Erase head:
  Remove screw ⑤ , then remove this head together with holder base ⑥ .

Note: When reinstalling the heads, refer to "Adjustment of cassette mechanism" on page 17 for head position.

2. Removal of pinch roller arm ass'y ⑦ (Fig. 4)

- Remove E-ring ⑧ , then take out this ass'y together with the spring.

3. Removal of photo-coupler board (Fig. 5)

- Remove two screws ⑩ . Be careful not to lose collar ⑪ , wire clamp ⑫ , etc.

4. Removal of tape counter ⑬ (Figs. 4 and 5)

- Remove counter belt ⑭ , then cut off the four baked places of motor bracket ⑮ by a scrwdriver. (This can not be used again.)

5. Removal of motor ass'y ⑯ (Figs. 4 and 5)

(1) Remove two screws ⑰ in the surface side, then remove the governor board.
(2) Remove two screws ⑱ in the back side, then remove belt ⑲ .

6. Removal of flywheel ass'y ⑳ (Figs. 4 and 5)

(1) Remove two screws ㉑ and ㉒ , then take out flywheel holder ㉓ .
(2) Remove belt ㉔ , then take out this ass'y, paying attention not to lose two washers ㉕ in the surface side.

7. Removal of sub-chassis ass'y ㉖ (Fig. 6)

(1) Remove photo-coupler board ㉗ , then remove three screws ㉘ and ㉙ .
(2) Remove tension spring ㉚ from rewind bar ㉛ and take out this spring rearwards, and this ass'y will be released with take-up reel ㉜ and supply reel disc ㉝ .
(3) Remove washer ㉞ to take out take-up reel ㉜ . Remove washer ㊱ to take out supply reel disc ㉝ .

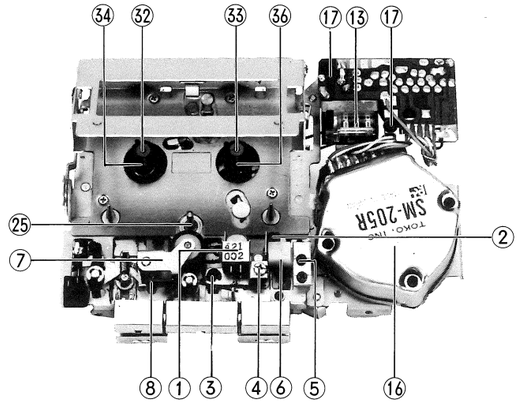


Fig. 4

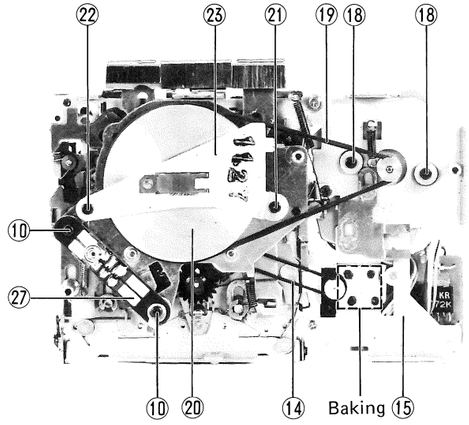


Fig. 5

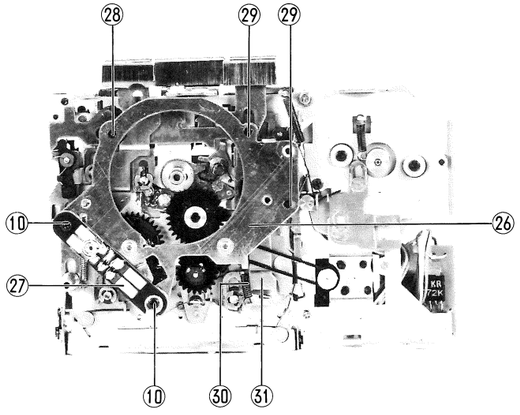


Fig. 6

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
56	VKW3007-007	Tension Spring		1
57	VKB3000-050	Belt		1
58	VKL5055-001	Play Lever		1
59	VKS4360-001	Switch Lever		1
60	VSH1203-001	Leaf Switch		1
61	VMW3166-002	P.W. Board	Photocoupler	1
62	VKL5135-001	Kick Lever		1
63	VKH3013-014	Flange Collar		1
64	VKZ4001-012	Wire Clamp		2
65	VKH3000-052	Collar		2
66	VJC3015-001	Plate		1
67	VKL3351-00B	Cassette Holder Ass'y		1
68	VKH4374-001	Holder Shaft		1
69	VKC5152-001T	Counter		1
70	VKB3000-049	Belt		1
71	VKL3377-00A	Flywheel Bracket Ass'y		1
72	VKH3001-042	Flange Collar		1
73	VKZ4169-001	Thrust Plate		1
74	VYH4921-001	Motor Cover		1
75	VYH4922-003	Shield Plate		1
76	ON2160(R)	Photocoupler		1
77	QVZ3602-474	V. Resistor		1
78	VKW4335-004	Tension Spring		1
79	VKW4336-004	Tension Spring		1
101	VKZ4004-007	Special Washer	Select Lever Spring x 1, Rec. Stopper Spring x 1, Take-up Reel Ass'y x 1, Supply Reel Disk x 1, Take-up Lever Spring x 1	5
102	Q03093-834	Washer	Lock Plate Ass'y	1
103	" -838	"	Record Bar Ass'y x 1, Head Base Ass'y x 1, Stop Bar x 1, Rec. Safety Lever Spring x 2, Rew. Bar x 1, F.F. Bar x 1	7
105	Q03096-101	"	R/P Head	1
106	Q03093-830	"	F.F. Bar	1
107	" -839	"	Flywheel Ass'y	2
108	VKZ4164-001	"	Flywheel Ass'y	1
109	Q03093-835	"	Motor Ass'y	2
110	" -435	"	Cassette Holder Ass'y	1
111	REE1500	E Ring	Cam Plate x 1, Record Bar x 2, Head Base Ass'y x 2, Pinch Roller Arm x 1, Stop Bar x 2, Rec. Release Arm x 1, Rew. Bar x 3, F.F. Bar x 2, Cassette Holder Ass'y x 2, Switch Lever x 1	17
112	F00418-14	"	R/P Head	1
113	SPSK1440M	Mini Screw		1
115	SPSH1435M	"	Collar	2
116	SPSK1420M	"	Wire Clamp	2
117	SSSK1420M	"	Head Holder	1
118	SPSH1450M	"	E. Head	1
119	SPSK1716M	"	Head Holder x 1, R/P Head x 1, Amp. Bracket x 1, Belt x 2	5
120	SPSK1725M	"	Motor Ass'y x 2, Leaf Switch x 1, Flywheel Bracket Ass'y x 1	4
121	SPSK1740M	"	Motor Ass'y	2
122	SPSK1750M	"	Flywheel Bracket Ass'y	1
123	SSSK1414N	"	Plate	4
124	SSSK1425M	"	Take-up Gear x 1, Wire Clamp x 1	2
125	SSSK1725M	"	Belt x 2, Kick Lever x 1	3

ICs

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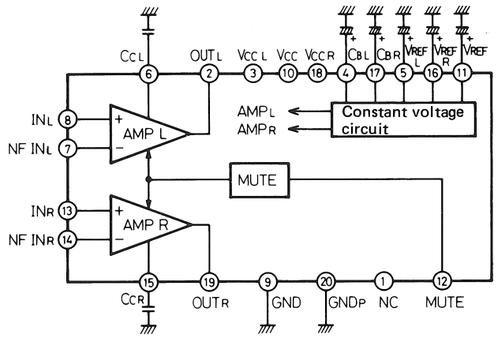

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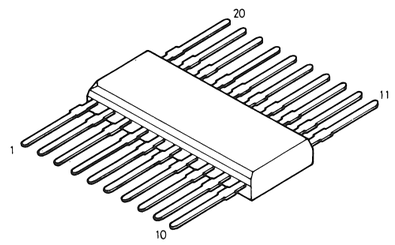

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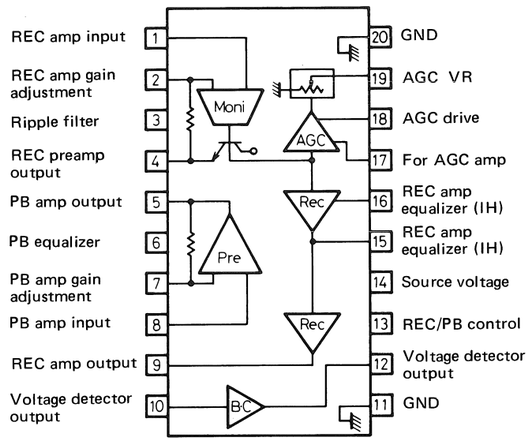
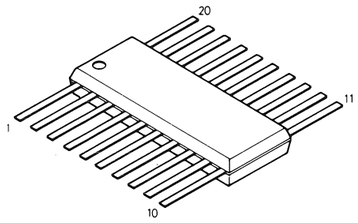
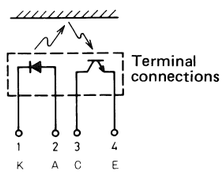


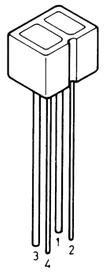
M51141P

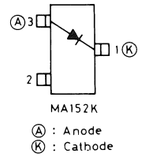


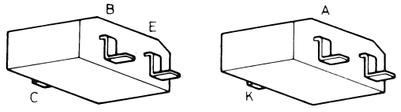
ON2160



ON2160







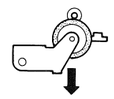
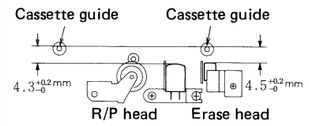
Chip Transistor
2SB709
2SD601
2SD813

Chip Diode
MA152K

Fig. 10

Adjustment of Cassette Mechanism

When replacing a mechanical part, check the items below.

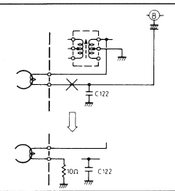
Item	Standards	Testing method	Tape to be used
1. Source voltage	Rated voltage: DC 3 V	Constant voltage source	
2. Tape speed	2.4 cm/s +3% (3000 Hz) −3% Variation width 1%	Frequency counter (digital counter)	OA-W212
3. Wow/flutter	Less than 0.4% (JIS RMS)	Wow meter	OA-W212
4. Take-up torque	PLAY 4.5—10 g-cm F.F. 30—55 g-cm REW 30—55 g-cm		PLAY: TW-1112A F.F./REW: TW-1231A
5. Current consumption (motor only)	PLAY less than 70 mA F.F. REW	DC current meter	MC-60 Use a tape with normal take-up torque.
6. Pinch roller pressure	125—180 g	When pinch roller stops with tension gauge pulled vertically. 	—
7. Head position at PLAY or REC		In PLAY (REC) mode, each head should be positioned at range of distance shown left. The top of each part should not touch the cassette.	All types of cassette tapes
8. F.F. and REW times	F.F. Less than 130 sec REW Less than 130 sec	Tape speed 2.4 m/s	MC-60

Precautions in Repairing

1. To prevent improper mechanical operation, check the direction of each spring when removed. Be careful not to change the direction when reasssembling.
   In addition, when removing mini-screws, use these screws properly, referring to "List of Mini-screws for Mechanism" on page 5.
2. When inserting the discs, be careful not to change the separation from the photo-coupler.
3. Do not apply grease to gears over moderate amount. (Small amount of LEN-315F Teflon grease)
4. Avoid use of bonds. When using a bond, be careful not to attach it to any other part.
5. For each head position, keep the distance specified above.
6. Remove mini-screws by a conventional watch-screwdriver.

Adjustment of Cassette Recorder Amplifier

Conditions: Power supply : DC 3 V — Volume : Max.
Switch : PAUSE START — Output measurement : PHONES jack (32 Ω)

Adjustment item	Tape to be used	Method	Adjustment points
1. Tape speed adj. and wow/flutter check	OA-W212 (3 kHz, –5 dB)	At end of tape, adjust as follows: 2.4 cm/s 2,985 Hz (±3%) 1.2 cm/s 1,492 Hz (±3%) Wow/flutter should be less than 0.38% (RMS).	VR105 VR104
2. Head azimuth adj.	OA-A231 (6 kHz, –5 dB)	Adjust screw at right side of R/P head to maximize output. After reinserting cabinet, reconfirm that phase difference is 0°.	Screw for R/P head azimuth adj.
3. Check of PB output	OA-L211 (1 kHz, –5 dB)	When playing back the test tape, it should be –6 dBs ± 2 dB with L/R difference of less than 2 dB.	—
4. Bias freq. and current adj.		In REC mode, measure it across 10 Ω resistor attached for measurement. Bias freq. METAL : 28.5–29.0 kHz Bias current NORMAL : 5.8 mV/10 Ω METAL : 11 mV/10 Ω	 L101 VR103 VR102
5. REC/PB freq. response	OA-B111 (NORMAL) MC-60 (METAL)	When recording input of –30 dBs signal in the REC mode, make a fine adjustment of bias current so that, in HP output, 5 kHz is against 500 Hz as follows: NORMAL : –2 ± 3 dB METAL : +1 ± 3 dB	 VR103 VR102
6. Photo-coupler sensitivity adj.		In STOP mode, emitter voltage of Q103 should be 1.2 V. (Using Electronic Voltmeter)	VR106

■ Adjustment Parts Location

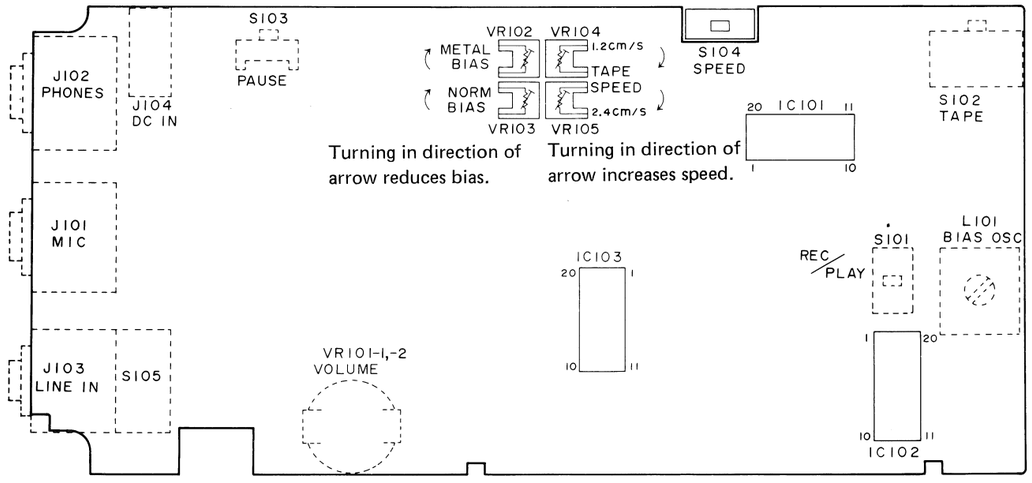


Fig. 7

Block Diagram

– Recording system –

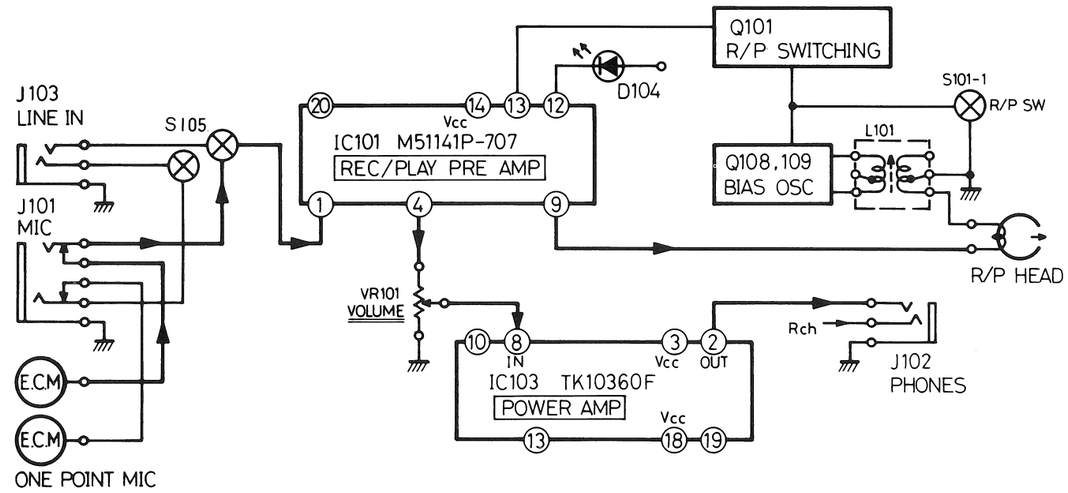


Fig. 8

– Playback system –

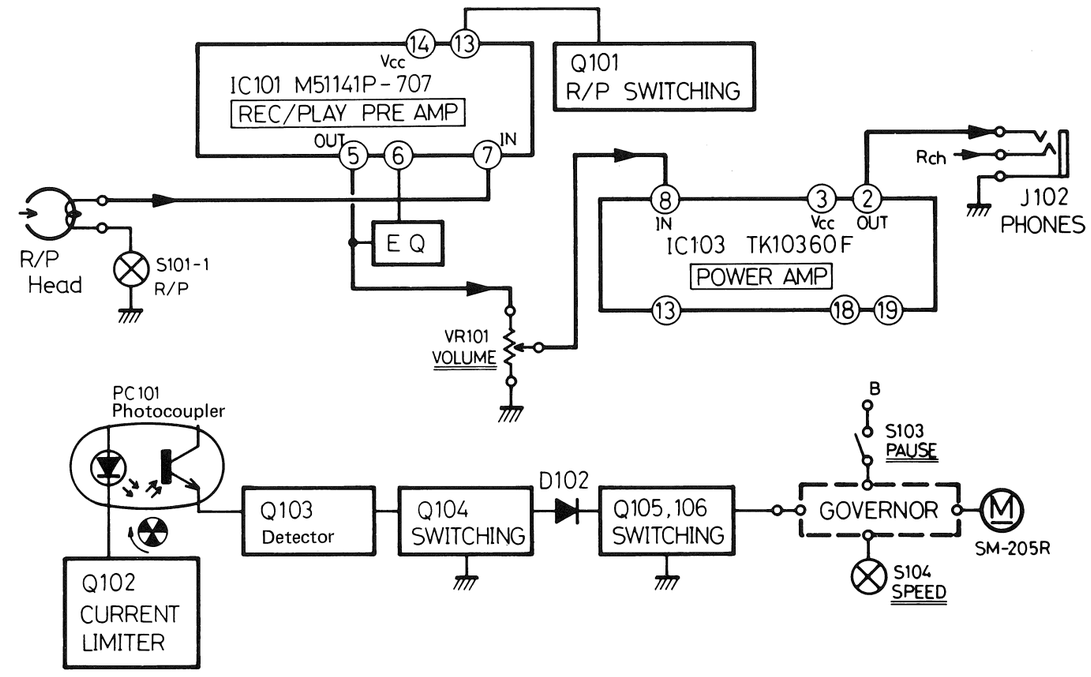
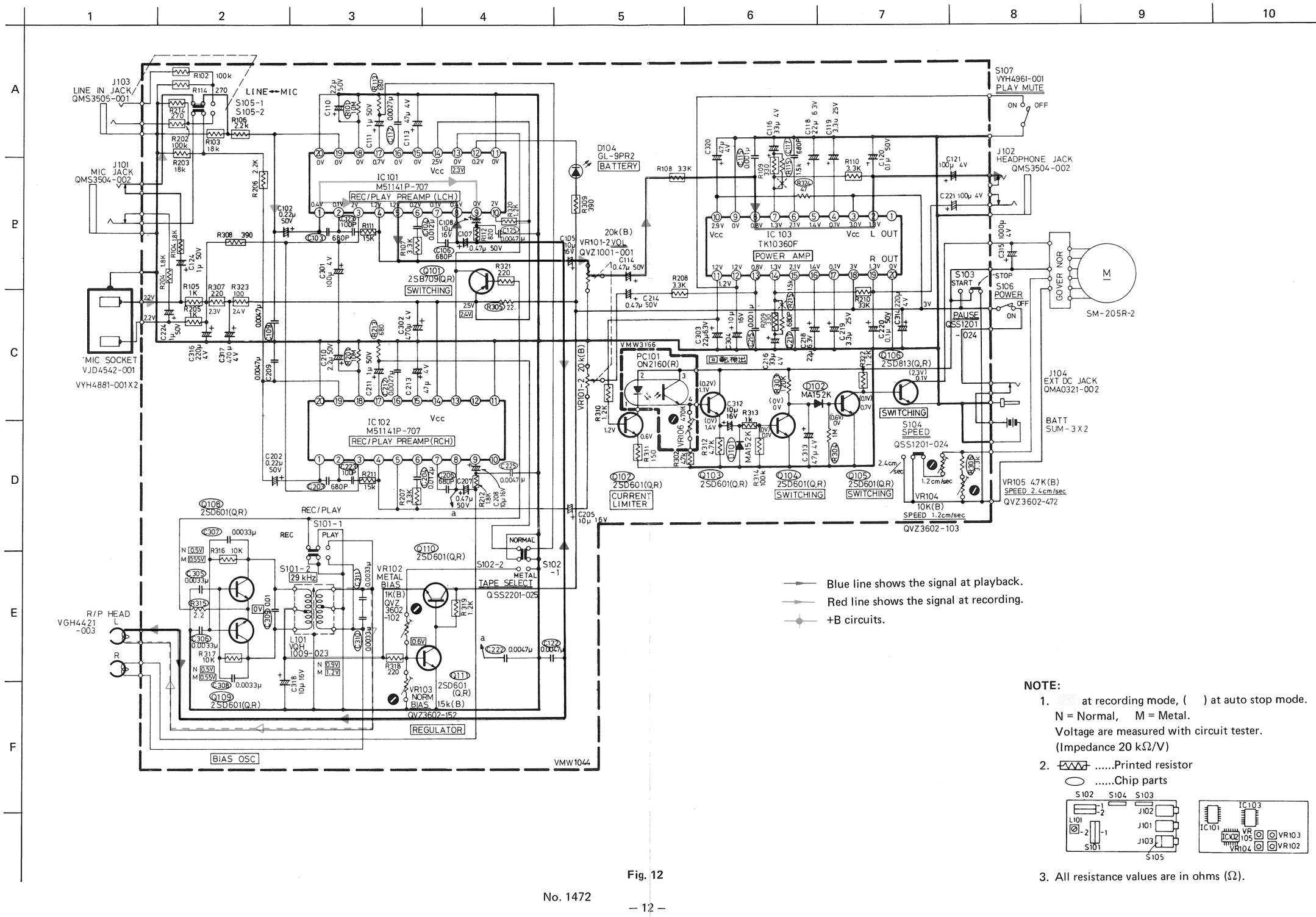


Fig. 9

Standard Schematic Diagram of MQ-5K



Blue line shows the signal at playback.
Red line shows the signal at recording.
+B circuits.

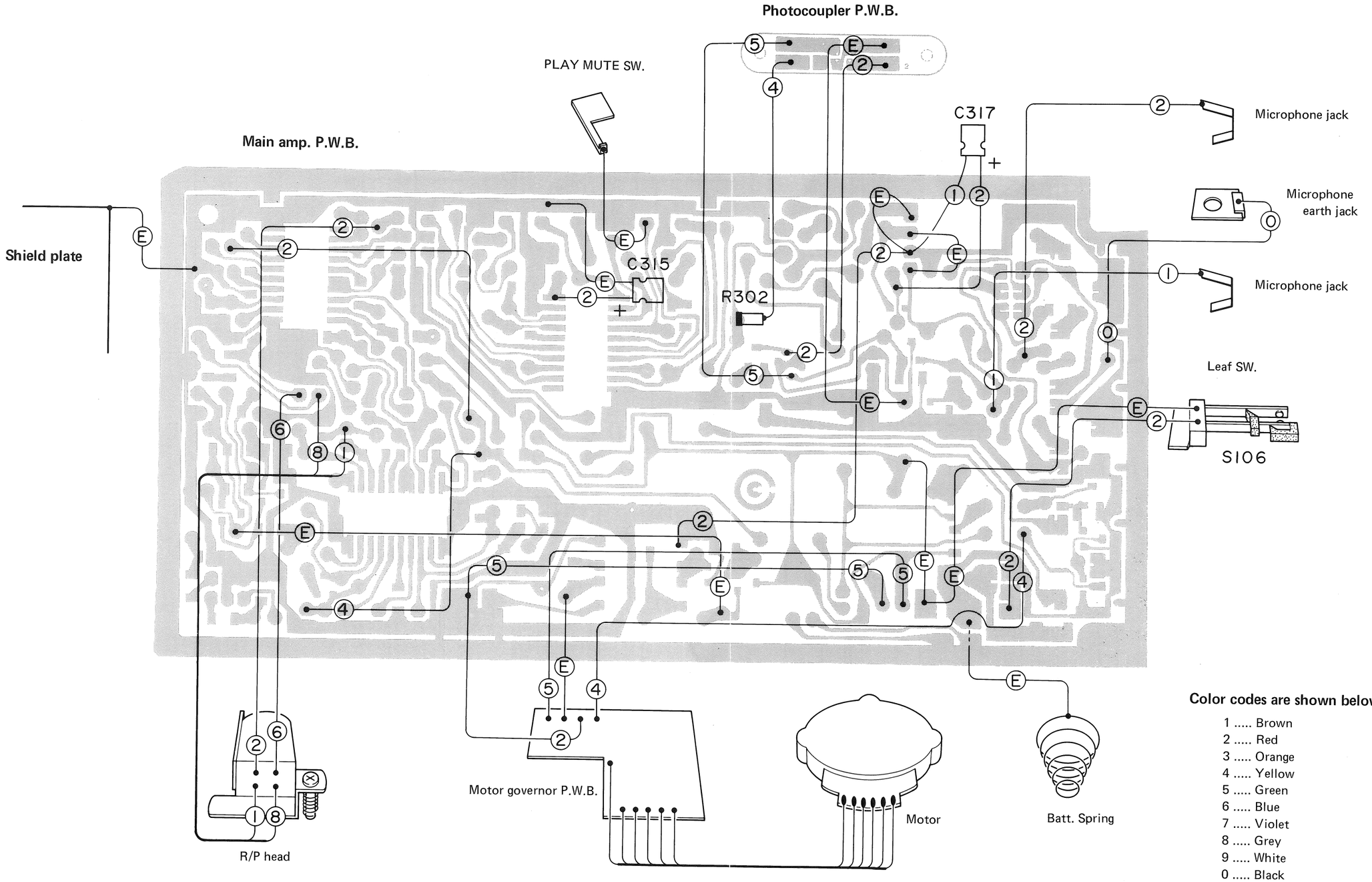
NOTE:

1. ▒▒ at recording mode, ( ) at auto stop mode.
   N = Normal, M = Metal.
   Voltage are measured with circuit tester.
   (Impedance 20 kΩ/V)
2. ⊣⊢ .....Printed resistor
   ⬭ .....Chip parts

3. All resistance values are in ohms (Ω).

Fig. 12

Wiring Connections



Color codes are shown below.

1 ..... Brown
2 ..... Red
3 ..... Orange
4 ..... Yellow
5 ..... Green
6 ..... Blue
7 ..... Violet
8 ..... Grey
9 ..... White
0 ..... Black

Fig. 11

Mechanical Component Parts

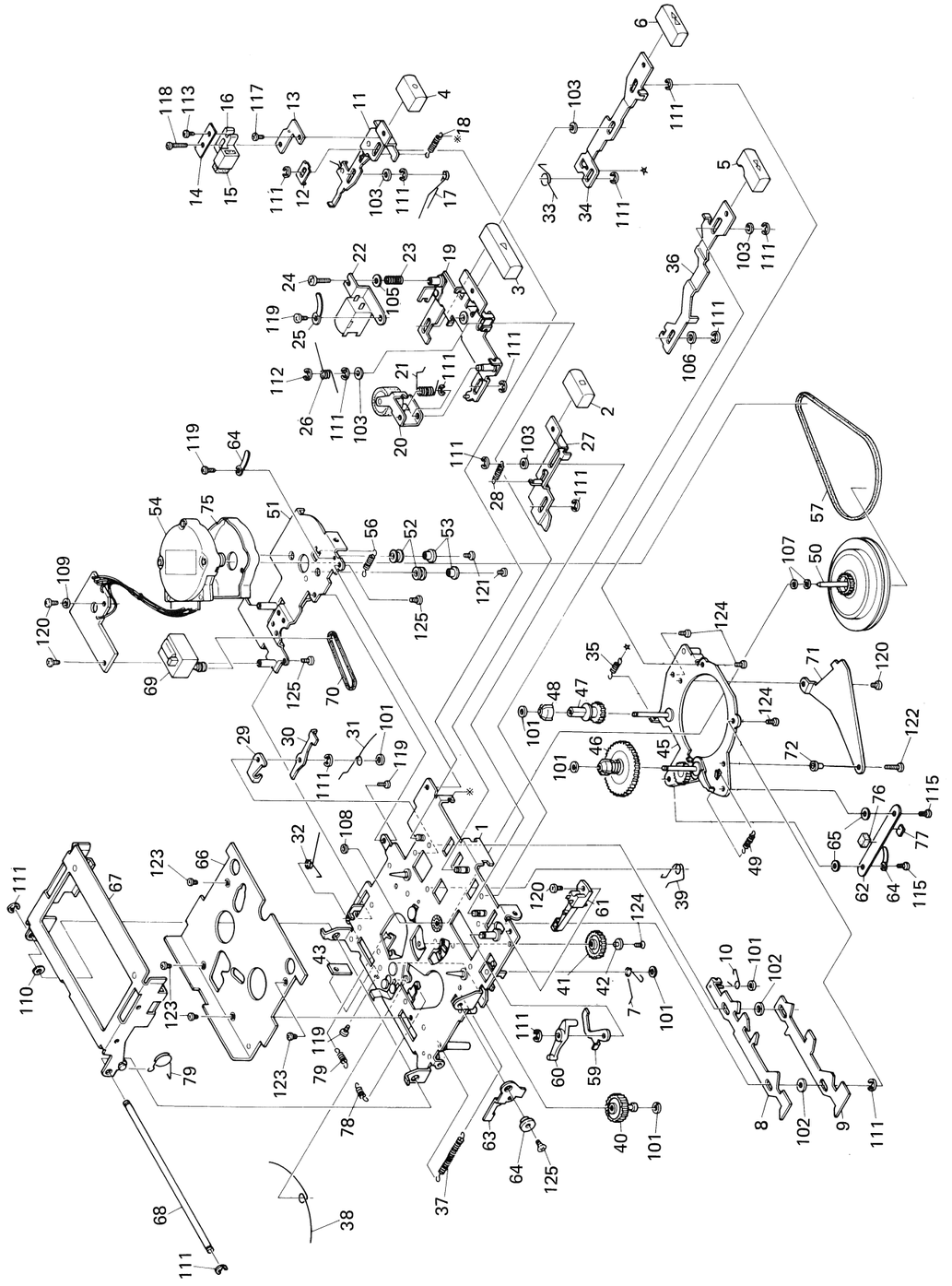


Fig. 14

Mechanical Component Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	VKL1209-00D	Chassis Base Ass'y		1
2	VXP4193-001	Push Button	Stop	1
3	VXP4194-001	"	Play	1
4	VXP4195-001	"	Record	1
5	VXP4196-002	"	F.F.	1
6	VXP4197-002	"	Rew.	1
7	VKW4289-002	Select Lever Spring		1
8	VKL3376-00C	Lock Plate Ass'y		1
9	VKL3310-001	Cam Plate		1
10	VKW4347-002	Rec. Stopper Spring		1
11	VKL3346-00D	Record Bar Ass'y		1
12	VKL5195-002	Spring Plate		1
13	VKL5046-004	Head Holder		1
14	VKL5261-002	Tape Spacer		1
15	VGH4212-402	E. Head		1
16	VKS4419-002	Holder Base		1
17	VKW4321-002	Lock Plate Spring		1
18	VKW4348-002	Rec. Bar Spring		1
19	VKL3313-00D	Head Base Ass'y		1
20	VKP4118-00A	Pinch Roller Arm Ass'y		1
21	VKW4293-003	Pinch Roller Spring		1
22	VGH4421-003	R/P Head		1
23	VKW3001-067	Compression Spring		1
24	VKZ4013-001	Special Screw		1
25	VKZ4001-012	Wire Clamp		1
26	VKW4361-002	Head Base Spring		1
27	VKL3315-001	Stop Bar		1
28	VKW3002-102	Tension Spring		1
29	VKL5049-001	Rec. Lock Arm		1
30	VKL5050-001	Rec. Release Arm		1
31	VKW4317-001	Rec. Kick Spring		1
32	VKW4322-003	Rec. Safety Lever Spring		1
33	VKW4296-003	Rew. Spring		1
34	VKL3348-001	Rew. Bar		1
35	VKW3007-008	Tension Spring	Rew. Bar	1
36	VKL3317-002	F.F. Bar		1
37	VKW3007-003	Tension Spring		1
38	VKW4297-001	F.F. & Rew. Lever Spring		1
39	VKW4298-003	Take-up Lever Spring		1
40	VKR4284-00B	F.F. & Rew. Gear Ass'y		1
41	VKR4230-001	Take-up Gear		1
42	VKH3013-009	Flange Collar		1
43	VKL5171-001	Amp. Bracket		1
45	VKL2150-00C	Reel Disk Bracket Ass'y		1
46	VKR4231-00C	Take-up Reel Ass'y		1
47	VKR4235-001	Supply Reel Disk		1
48	VKR4236-001	Supply Reel Feather		1
49	VKW3007-004	Tension Spring	Action Lever	1
50	VKF3119-00B	Flywheel Ass'y		1
51	VKL2153-00C	Motor Bracket Ass'y		1
52	VKZ4015-003	Rubber Bushing		2
53	VKH4375-001	Motor Bushing		2
54	SM-205R-2	Motor Ass'y		1
55	QXTV260-006	Tube		1

Assembly Parts

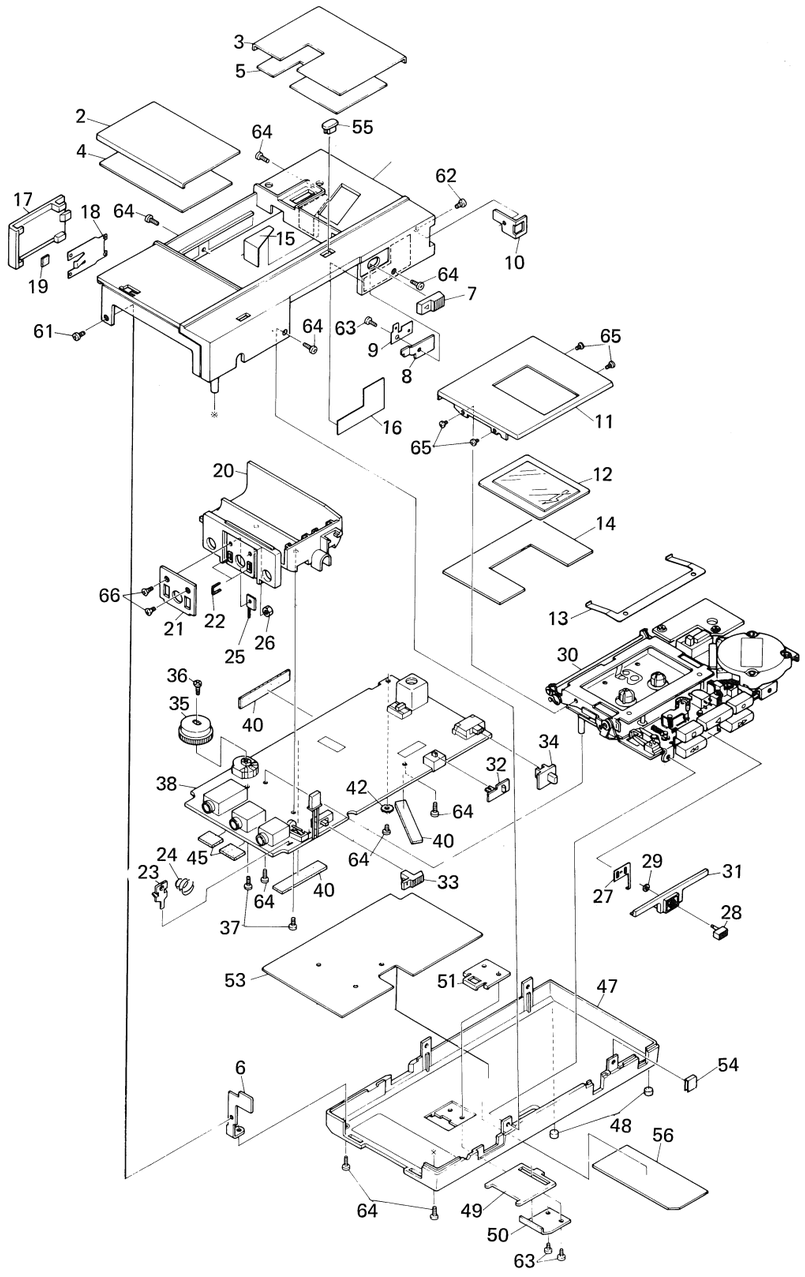


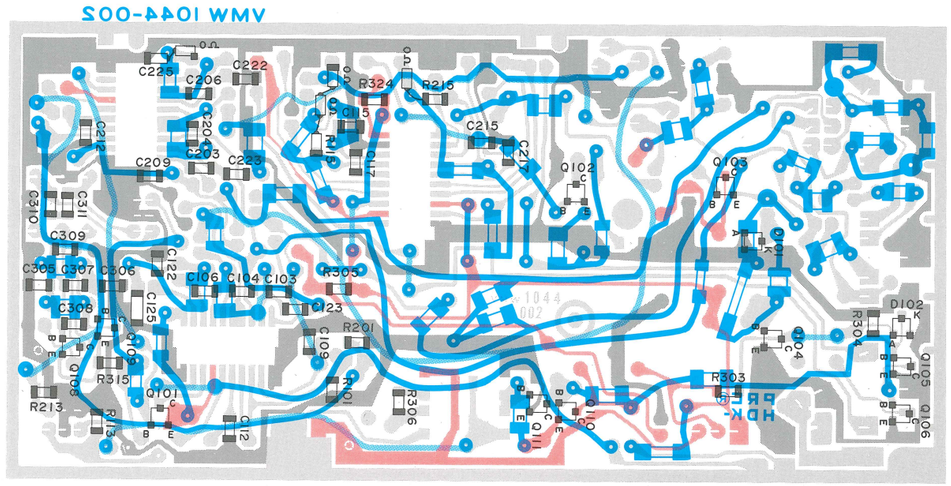
Fig. 13

Assembly Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1–5, 15, 16	ZCMQ5K-CBF	Cabinet Case Ass'y		1
1	VJC2062-001	Cabinet Case		1
2	VJD4552-003	Panel (A)		1
3	VJD4553-004	" (B)	MQ-5KB	1
	" -003	" (B)	MQ-5KJ/C/E/U	1
4	VYH4874-001	Sheet (A)		1
5	VYH4878-001	" (B)		1
6	VYH4877-001	Bracket		1
7	VXS4062-001	REC Stopper Knob		1
8	VYH4876-003	Lever		1
9	VYH4963-002	Spring		1
10	VJD4545-001	Strap Plate		1
11, 12, 14	ZCMQ5K-CCA	Cassette Door Ass'y		1
11	VJT3079-002	Cassette Door		1
12	VJK4159-001	Lens		1
13	VKY4230-001	Spring		1
14	VYH4973-001	Plate		1
15	VYH4976-001	Shield	Cabinet	1
16	VYH4977-001	"	"	1
(17,18,19)	ZCMQ5K-BCA	Battery Cover Ass'y		
17	VJC4007-001	Battery Cover		1
18	VYH4875-003	Battery Spring		1
19	VYSR102-018	Spacer		1
20	VJD3326-001	Jack Base		1
21	VJD4542-001	Hold Plate		1
22	VYH4881-001	Contact (A)		2
23	VYH4883-001	Battery Contact		1
24	VYH4349-003	Battery Spring		1
25	VYH4932-001	Tapping Plate		1
26	VYH4980-001	"		1
27	VYH4961-001	Contact		1
28	VXP4238-001	Push Knob		1
29	VKZ4004-007	Special Washer		1
30	—	Mecha. Ass'y		1
31	VJD4541-002	Mecha. Blind		1
32	VXS4063-002	Knob (A)	Speed	1
33	VXS4064-001	" (B)	Pause	1
34	VXS4065-002	" (C)	Tape	1
35	VXL4170-001	Volume Knob		1
36	VKZ4013-001	Special Screw		1
37	F00410-74N	Tap. Screw		2
38	—	Amp. P.W. Board		1
40	F00303-34	Spacer		17
41	VKZ4001-010	Wire Clamp		1
42	Q03093-839	Washer		1
45	VYSH103-022	Spacer		2
47, 48, 54, 56	ZCMQ5K-CBR	Rear Cover Ass'y		1
47	VJC3019-002	Rear Cover		1
48	VYH4888-002	Foot		2
49	VJD4543-002	Stand Plate		1
50	VJD4544-004	Stand Spring		1
51	VJD4554-002	Stand Holder		1
53	VYH4890-003	Shield		1
54	VYH4978-001	"		1
55	VJD4540-001	Azimuth Cap		1
56	VYN5077-002	Name Plate	MQ-5K(J/C)	1
	" -003	"	MQ-5K(B/E/U)	1
61	SPSK1720N	Mini Screw	Bracket	1
62	SPSK1725N	"	Strap Plate	1
63	SPSK1730N	"	REC Stopper Knob	1
64	SPSK1735N	"	Volume Knob x 7, Azimuth Cap x 2	9
65	SSSK1413M	"	Cassette Door	1
66	SSSK1730N	"	Tapping Plate x 2, Stand Plate x 2	4

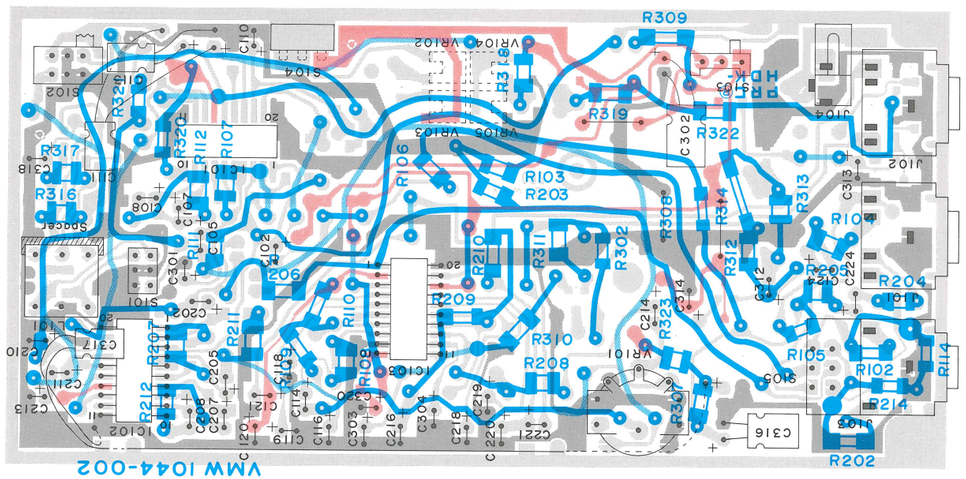
Amplifier P.W. Board Parts

Pattern Side View



+B line
Earth line

Parts Ass'y Side View



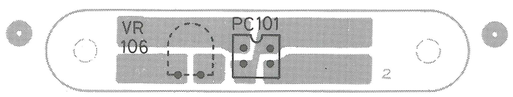


Fig. 15

1. Removal of rear cover (39)

(1) Remove two screws SPSK1735N (49) in the back.
(2) Remove four screws SPSK1735N (34) in the side.
Thereupon, the rear cover can be removed. Thus, it is possible to replace any chip element on the pattern and to make adjustment by semi-fixed VRs. (The push-buttons of the PAUSE, SPEED and TAPE switches can also be removed.)

Note: When reassembling, insert the push-buttons in advance.

2. Removal of cabinet case (1)

(1) Remove four screws SSSK1413M (16) in cassette door (13), then remove cassette door.
(2) Remove this case and the amp board and the mechanism from the counter side in advance.

3. Removal of amp board (37) **and mechanism** (27)

(1) Remove three screws SPSK1735N (36) in the pattern side, take out the wire clamp, then disassemble the amp board and the mechanism, avoiding contact (53) of the PLAY MUTE switch. When reassembling, set the REC/PLAY switch (S101) to PLAY (the side opposite to IC101) so that it is positively switched over to REC by operating the REC button.
Refer to the diagram below, for handling the wires in the pattern side.

4. Removal of jack base (19)

(1) Release battery contact (22) and battery spring (23) in the pattern side from soldered joint.
(2) Release the LED from soldered joint, then remove two tapping screws F00410-74N (35).

PRECAUTIONS IN REASSEMBLY

- This unit has little spacial margin between the cabinet, rear cover, amp board and tape transport mechanism. Therefore, when replacing a component or reassembling the disassembled unit, suppress the quantity of the attached solder to less than 1 mm high and be careful not to make its contact with components in between. Moreover, hold down any bunch of wires with spacers not to touch any other bunch of wires.

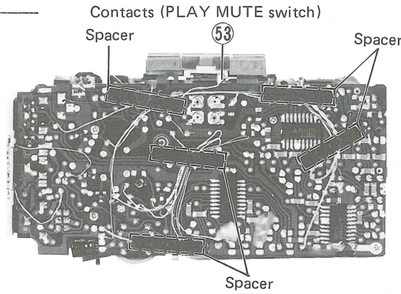


Fig. 3

■ List of Mini-screws for Mechanism

Refer to this list together with "Mechanical Component Parts" (Page 14)

Type	Ref. No.	Part No.	Designation	Ref. length (mm)
Flat head screws for precision machines	123	SSSK1414N	M1.4	1.4
	124	SSSK1425M	M1.4	2.5
	125	SSSK1725M	M1.7	2.5
Pan head screws for precision machines	116	SPSK1420M	M1.4	2.0
	117	SPSK1425M	M1.4	2.5
	118	SPSK1450M	M1.4	5.0
	119	SPSK1716M	M1.7	1.6
	120	SPSK1725M	M1.7	2.5
	121	SPSK1740M	M1.7	4.0
	122	SPSK1750M	M1.7	5.0
	115	SPSH1435M	M1.4	3.5

Servicing for MQ-5K

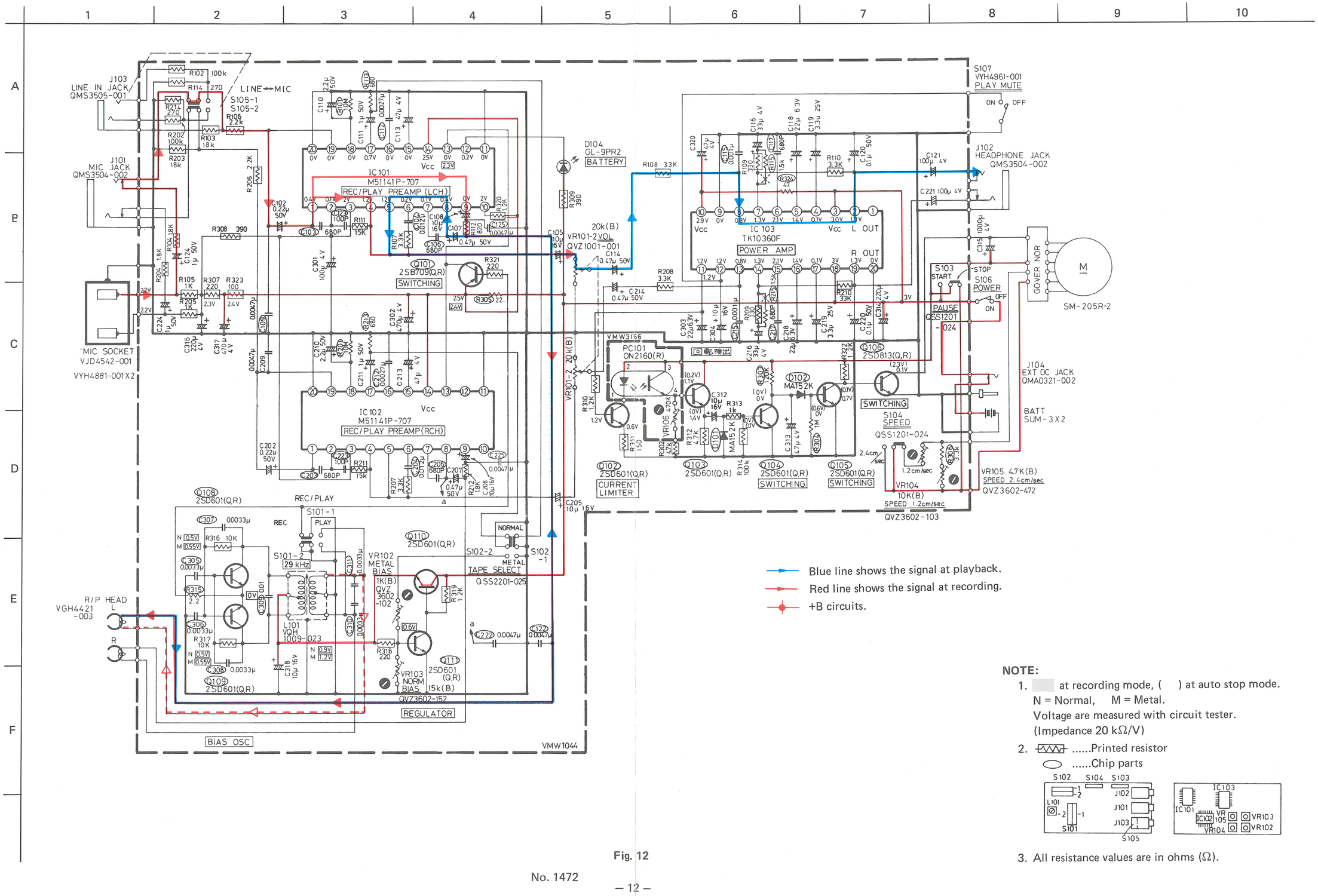
■ **Servicing of Chip Elements**

The chip resistors and capacitors used in MQ-5K are the same as those in HK-7 except for R101 and 201 rated 10 MΩ. Accordingly, when replacing any of these same elements, it is possible to select an element with the same rating as this replaced element from the kit of chip elements used in Video Camera GX-V7.
A chip element of this kit cannot be employed as a substitute for the discrete component, since it does not provide sufficient spacial distance.
As the chip element replacing method and tools are the same as in HK-7.

■ **Adjustment Tools of Semi-fixed VRs (VR102–106)**

These VRs are slightly different in shape from those conventional.
Although these VRs can also be adjusted by a small screwdriver, Mitsumi RG4L is available as the exclusive screwdriver.

Standard Schematic Diagram of MQ-5K



Blue line shows the signal at playback.
Red line shows the signal at recording.
+B circuits.

NOTE:

1. ▭ at recording mode, ( ) at auto stop mode.
   N = Normal, M = Metal.
   Voltage are measured with circuit tester.
   (Impedance 20 kΩ/V)
2. ⊣⊢ .....Printed resistor
   ⬭ .....Chip parts

3. All resistance values are in ohms (Ω).

Fig. 12