RS-M24 MECHANISM SERIES

Specifications

Track system: 4-track 2-channel stereo recording and playback
Tape speed: 4.8 cm/s
Wow and flutter: 0.05% (WRMS), ±0.14% (DIN)
Frequency response:
   Metal tape: 20 → 17,000 Hz
   30 → 15,000 Hz (DIN)
   CrO2 tape: 20 → 16,000 Hz
   30 → 15,000 Hz (DIN)
   Normal tape: 20 → 15,000 Hz
   30 → 14,000 Hz (DIN)
Signal-to-noise ratio:
   Dolby NR in: 67 dB (above 5 kHz)
   Dolby NR out: 57 dB (signal level = max. input level A weighted, CrO2 tape type)
Fast forward and rewind time: Approx. 90 seconds with C-60 cassette tape
Inputs:
   MIC: sensitivity 0.25 mV
   LINE: sensitivity 60 mV, input impedance more than 47 kΩ

Outputs:
   LINE: output level 400 mV, output impedance 2 kΩ or less
   Bias frequency: 80 kHz
   Motor: Electrical DC governor motor
   Heads: 2-head system:
      1-MX head for record/playback
      1-double-gap ferrite head for erase
Power requirement:
   D: AC 220 V, 50-60 Hz
   B: AC 240 V, 50 Hz for United Kingdom
   N: AC 110/125/220/240 V, 50-60 Hz
   A: AC 240 V, for Australia
Power consumption:
   D/E/A: 15 W
   N: 11 W
Dimensions:
   31.5 cm(W) × 12.4 cm(H) × 24.8 cm(D)
Weight:
   3.2 kg

Specifications are subject to change without notice.
• "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.
LOCATION OF CONTROLS AND COMPONENTS

1. Power Switch [power [push on]]
2. Cassette Holder
3. Tape Indicators
   [Auto Tape Select (Normal = C02, Metal)]
4. Tape Counter and Reset Button
   (tape counter-reset)
5. Recording Indicators [rec]
6. FL (fluorescent level) Meters
7. Input Level Controls [input level (left - right)]
8. Eject Button [eject (✓)]
9. Record Button [rec (✓)]
10. Rewind/Review Button [rew/rev (��态)]
11. Fast Forward/Cue Button [ff/cue (▶)]
12. Play Button [play ◯(▶)]
13. Stop Button [stop (■)]
14. Pause Button [pause (III)]
15. Dolby Noise-Reduction Switch
   [Dolby NR (on - off)]
16. Microphone Jacks [mic (L - R) (Auto Input Select)]
17. Direct Connector
18. Fixing Pin
19. Line Input Jacks [LINE IN (R, L)]
20. Line Output Jacks [LINE OUT (R, L)]
21. AC Outlet Unswitched
   * For All European areas.
   * For Asia, Latin America, Middle East and Africa areas.
22. AC Power Voltage Selector
   * For Asia, Latin America, Middle East and Africa areas.

FOR CONNECTION WITH THE DIRECT CONNECTOR

Connections should be made in accordance with the connection diagram and the following instructions. When 2 microphones are used in order to record in stereophonic sound, be sure both of them have the same performance and specification standards.

1. For connection with the direct connector:
   • Connection can be made without using the stereo pin cords when the unit and TECHNICS' SU-5 Stereo Amplifier and ST-5 FM/AM tuner are stacked up for use.
   • Set the direct connector to the erect position, replace the fixing pin at the unit's rear panel on the unit's top and connect the stereo amplifier properly (the fixing pin can be removing by rotating it 90°).

2. For connection with the stereo pin cords
   • Connection is made with the stereo pin cords when this unit is used in combination with the SU-5 stereo amplifier, ST-5 FM/AM tuner or other components.

   Notes:
   • Do not set the direct connector to the erect position.
   • Secure the fixing pin to the unit's rear panel.
3. **Location of this unit and stereo amplifier**  
If this unit is placed on top or next to the stereo amplifier, a "hum" noise may be heard during tape playback. Refer to the information below in order to avoid this.  
- If the stereo amplifier and this unit are placed one beside the other, try reversing their positions, and place them where there is the least amount of hum.

A "click" noise may be heard when the Power Switch is turned on or off. To avoid this, be sure to set the volume control of the amplifier to the minimum position.

### DISASSEMBLY INSTRUCTIONS

<table>
<thead>
<tr>
<th>Ref. No.</th>
<th>Procedure</th>
<th>To remove</th>
<th>Remove</th>
<th>Shown in fig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Bottom cover</td>
<td>• 6 screws .......... (A)</td>
<td>1</td>
</tr>
</tbody>
</table>
| 2        | 1→2       | Main circuit board and mechanism unit | • Cassette lid .......... (B)  
• 6 screws .......... (D)  
• Cord clampers .......... (E) | 1  
| 3        | 1→2→3     | Main circuit board | • Screw .......... (E)  
• Dolby NR switch bottom .......... (F)  
• 2 nuts .......... (G)  
• Cord clampers .......... (I)  
• 3 connectors .......... (L) | 2  
| 4        | 1→2→4     | FL meter circuit board | • 4 screws .......... (J)  
• Meter cover-B and meter filter .......... (K) | 4  
| 5        | 1→2→5     | Input level control circuit board | • 4 screws .......... (L) | 3, 5 |
| 6        | 1→2→6     | Mechanism unit | • 6 screws .......... (M) | 3 |
ASSEMBLY NOTES:

Precautions for mounting the input level control knob assembly

- Move the input level control lever and the input level control knob assembly to the right. Check that they engage each other as shown in fig. 6 and install the slide guide.

MECHANISM SECTION

1. For repair, measurement or adjustment with the mechanism removed from the unit be sure to ground the lower base plate of the mechanism.
2. For grounding, connect an extension cord to the mechanism's lower base plate and the lug terminal from amplifier printed circuit board.
3. Without grounding, the amplifier does not operate properly.

MEASUREMENT AND ADJUSTMENT METHODS

NOTE:

Tape speed can be adjusted through the small hole on the backside of main case by the ⦿ screw driver (non metal type) as shown in fig. 1.

ADJUSTMENT PARTS LOCATION

Fig. 1

Fig. 2

--- 4 ---
<table>
<thead>
<tr>
<th>ITEM</th>
<th>MEASUREMENT &amp; ADJUSTMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Head position adjustment</td>
<td>(The head adjusting plate is provided to adjust the tape touch of the head in cue or review mode.) 1. Press the playback button and pause button 2. Measure the space between the pressure roller and the capstan. <strong>Standard value: 0.5±0.3mm</strong> 3. If the measured value is not within the standard value, untighten screw (A), and slide the head adjusting plate in the direction of arrow (B) for adjustment.</td>
</tr>
<tr>
<td>3. Head azimuth adjustment</td>
<td>L-ch/R-ch output balance adjustment 1. Make connections as shown in fig. 4. 2. Playback the 8kHz signal from the test tape (QZZCFM). Adjust screw (B) in fig. 5 for maximum output L-ch and R-ch levels. When the output levels of L-ch and R-ch are not at maximum at the same time, readjust as follows. 3. Turn the screw shown in fig. 5 to find angles A and C (points where peak output levels for left and right channels are obtained). Then, locate the angle B between angles A and C, i.e., a point where L-ch and R-ch output levels come together at maximum. (Refer to figs. 5 and 6.)</td>
</tr>
<tr>
<td>4. Tape speed</td>
<td><strong>Tape speed accuracy</strong> 1. Test equipment connection is shown in fig. 9. 2. Playback test tape (QZZCWAT 3.000kHz), and supply playback signal to frequency counter. 3. Take measurement at middle section of tape. 4. Measure this frequency. 5. On the basis of 3.000kHz, determine value by following formula: [ \text{Tape speed accuracy} = \frac{</td>
</tr>
</tbody>
</table>
### Tape speed fluctuation

Make measurements in the same manner as above (beginning, middle, and end of tape), and determine the difference between maximum and minimum values and calculate as follows:

\[
\text{Tape speed fluctuation} = \frac{f_1 - f_2}{3.000} \times 100 \, \% \\
\text{where } f_1 = \text{maximum value, } f_2 = \text{minimum value}
\]

**Standard value:** Less than 1%

**Note:**
Please use non-metal type screwdriver when you adjust tape speed accuracy on this unit.

<table>
<thead>
<tr>
<th>ITEM</th>
<th>MEASUREMENT &amp; ADJUSTMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Playback frequency response</strong></td>
<td><strong>Playback frequency response chart</strong></td>
</tr>
<tr>
<td><strong>Condition</strong></td>
<td><strong>Playback frequency response chart</strong></td>
</tr>
<tr>
<td>• Playback mode</td>
<td><strong>Playback frequency response chart</strong></td>
</tr>
<tr>
<td>• Normal tape mode</td>
<td><strong>Playback frequency response chart</strong></td>
</tr>
<tr>
<td><strong>Equipment</strong></td>
<td><strong>Playback frequency response chart</strong></td>
</tr>
<tr>
<td>• VTVM</td>
<td><strong>Playback frequency response chart</strong></td>
</tr>
<tr>
<td>• Oscilloscope</td>
<td><strong>Playback frequency response chart</strong></td>
</tr>
<tr>
<td>• Test tape — Q22CFM</td>
<td><strong>Playback frequency response chart</strong></td>
</tr>
<tr>
<td>1. Test equipment connection is shown in fig. 4.</td>
<td><strong>Playback frequency response chart</strong></td>
</tr>
<tr>
<td>2. Place UNIT into playback mode.</td>
<td><strong>Playback frequency response chart</strong></td>
</tr>
<tr>
<td>3. Playback the frequency response test tape (Q22CFM).</td>
<td><strong>Playback frequency response chart</strong></td>
</tr>
<tr>
<td>4. Measure output level at 315 Hz, 12.5 kHz, 8 kHz, 4 kHz, 1 kHz, 2.5 kHz, 125 Hz, and 63 Hz, and compare each output level with the standard frequency 315 Hz, at LINE OUT.</td>
<td><strong>Playback frequency response chart</strong></td>
</tr>
<tr>
<td>5. Make measurement for both channels.</td>
<td><strong>Playback frequency response chart</strong></td>
</tr>
<tr>
<td>6. Make sure that the measured value is within the range specified in the frequency response chart (shown in fig. 10).</td>
<td><strong>Playback frequency response chart</strong></td>
</tr>
</tbody>
</table>

**Adjustment**

1. If the measurement value increases in the high frequency range, as shown in fig. 11, remove capacitor C3 (L-CH) and C4 (R-CH) (Refer to fig. 2).

   **Compensation value**

<table>
<thead>
<tr>
<th>6 kHz</th>
<th>8 kHz</th>
<th>10 kHz</th>
<th>12.5 kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0.2 dB</td>
<td>-0.4 dB</td>
<td>-0.8 dB</td>
<td>-1.2 dB</td>
</tr>
</tbody>
</table>

2. If the measurement value decreases in the high frequency range, as shown in fig. 12, insert and solder capacitors C3 (L-CH) and C4 (R-CH).

   **Compensation value**

<table>
<thead>
<tr>
<th>6 kHz</th>
<th>8 kHz</th>
<th>10 kHz</th>
<th>12.5 kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>+0.2 dB</td>
<td>+0.4 dB</td>
<td>+0.8 dB</td>
<td>+1.2 dB</td>
</tr>
</tbody>
</table>

   **Capacitors**

<table>
<thead>
<tr>
<th>Ref. No.</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C3, C4</td>
<td>ECKD1H271KB</td>
</tr>
</tbody>
</table>

**Fig. 10**

**Fig. 11**

**Fig. 12**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>MEASUREMENT &amp; ADJUSTMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Playback gain</strong></td>
<td><strong>Playback gain</strong></td>
</tr>
<tr>
<td><strong>Condition</strong></td>
<td><strong>Playback gain</strong></td>
</tr>
<tr>
<td>• Playback mode</td>
<td><strong>Playback gain</strong></td>
</tr>
<tr>
<td>• Normal tape mode</td>
<td><strong>Playback gain</strong></td>
</tr>
<tr>
<td><strong>Equipment</strong></td>
<td><strong>Playback gain</strong></td>
</tr>
<tr>
<td>• VTVM</td>
<td><strong>Playback gain</strong></td>
</tr>
<tr>
<td>• Oscilloscope</td>
<td><strong>Playback gain</strong></td>
</tr>
<tr>
<td>• Test tape — Q22CFM</td>
<td><strong>Playback gain</strong></td>
</tr>
<tr>
<td>1. Test equipment connection is shown in fig. 4.</td>
<td><strong>Playback gain</strong></td>
</tr>
<tr>
<td>2. Playback standard recording level portion on test tape (Q22CFM 315 Hz), and using VTVM measure the output level at LINE OUT.</td>
<td><strong>Playback gain</strong></td>
</tr>
<tr>
<td>3. Make measurement for both channels.</td>
<td><strong>Playback gain</strong></td>
</tr>
</tbody>
</table>

   **Standard value:** 0.4 V ± 2 dB (around 0.42 V: at test points TP3 (L-CH) and TP4 (R-CH))

**Adjustment**

1. If measured value is not within standard, adjust VR1 (L-CH), VR2 (R-CH) (See fig. 2 on page 4).
2. After adjustment, check 'Playback frequency response' again.

**Fig. 13**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>MEASUREMENT &amp; ADJUSTMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bias leakage</strong></td>
<td><strong>Bias leakage</strong></td>
</tr>
<tr>
<td><strong>Condition</strong></td>
<td><strong>Bias leakage</strong></td>
</tr>
<tr>
<td>• Record mode</td>
<td><strong>Bias leakage</strong></td>
</tr>
<tr>
<td>• Metal tape mode</td>
<td><strong>Bias leakage</strong></td>
</tr>
<tr>
<td><strong>Equipment</strong></td>
<td><strong>Bias leakage</strong></td>
</tr>
<tr>
<td>• VTVM</td>
<td><strong>Bias leakage</strong></td>
</tr>
<tr>
<td>• Oscilloscope</td>
<td><strong>Bias leakage</strong></td>
</tr>
<tr>
<td>1. Test equipment connection is shown in fig. 13.</td>
<td><strong>Bias leakage</strong></td>
</tr>
<tr>
<td>2. Place UNIT into record mode.</td>
<td><strong>Bias leakage</strong></td>
</tr>
<tr>
<td>3. Adjust trap coil L1 (L-CH), L2 (R-CH), so that the measured value on VTVM becomes minimum.</td>
<td><strong>Bias leakage</strong></td>
</tr>
<tr>
<td>4. Take adjustment for both channels.</td>
<td><strong>Bias leakage</strong></td>
</tr>
</tbody>
</table>

**Fig. 13**
**ITEM**

<table>
<thead>
<tr>
<th>Erase current</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Condition</strong></td>
</tr>
<tr>
<td>• Record mode</td>
</tr>
<tr>
<td>• Metal tape mode</td>
</tr>
</tbody>
</table>

**Equipment**

• VTVM  
• Oscilloscope

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**MEASUREMENT & ADJUSTMENT**

1. Test equipment connection is shown in fig. 14.
2. Place UNIT into record and metal tape mode and then measure voltage at test point 9.
3. Read voltage on VTVM and calculate erase current by following formula:

   \[ \text{Erase current (A)} = \frac{\text{Voltage across both ends of R201}}{1 (\Omega)} \]

4. If measured value is not within standard, adjust as follows.

**Adjustment**

1. Open the point (A) and short the point (B) on the main circuit board in the wiring connection diagram (See page 15).
2. Make measurement for erase current.
3. Make sure that the measured value is within the erase current of 140 mA to 170 mA.
4. If it is beyond the value, carry out the following adjustments:
   • If the erase current is less than 140 mA, short the point (A) and (B).
   • If the erase current is more than 170 mA, open the points (A) and (B).

---

**Overall frequency response**

**Condition**

• Record/playback mode  
• Normal tape mode  
• CrO₂ tape mode  
• Metal tape mode  
• Input level controls — MAX

**Equipment**

• VTVM  
• AF oscillator  
• ATT  
• Oscilloscope  
• Resistor (600Ω)  
• Test tape  
  (reference blank tape)  
  …QZZCRA for Normal  
  …QZZCRX for CrO₂  
  …QZZCRZ for Metal

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**Note:**

Before measuring and adjusting, make sure of the playback frequency response. (For the method of measurement, please refer to the playback frequency response.)

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**Overall frequency response chart (Normal)**

![Overall frequency response chart (Normal)](image)

**Overall frequency response adjustment by recording bias current**

(Recording equalizer is fixed)

1. Make connections as shown in fig. 17.
2. Place the UNIT into normal tape mode and load the test tape (QZZCRA).
3. Input a 1 kHz, -24 dB signal through LINE IN. Place the set in record mode.
4. Fine adjust the attenuator to obtain 0.4 V LINE OUT output.
   • Make sure that the input signal level is -24 ± 4 dB with 0.4 V output voltage.
5. Adjust the attenuator to reduce the input level signal by 20 dB.
6. Adjust the AF oscillator to generate 50 Hz, 100 Hz, 200 Hz, 500 Hz, 1 kHz, 4 kHz, 8 kHz, 10 kHz, and 12 kHz signals, and record these signals on the test tape.
7. Playback the signals recorded in step 6, and check if the frequency response curve is within the limits shown in the overall frequency response chart for normal tapes (fig. 15).  
   (If the curve is within the charted specifications, proceed to steps 8, 9, and 10.)
   If the curve is not within the charted specifications, adjust as follows.

**Adjustment (A):**

When the curve exceeds the overall frequency response chart specifications (fig. 15) as shown in fig. 18.

**Adjustment (B):**

When the curve falls below the overall frequency response chart specifications (fig. 15), as shown in fig. 19.
<table>
<thead>
<tr>
<th>ITEM</th>
<th>MEASUREMENT &amp; ADJUSTMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Switch the tape selector to CrO₂. Change test tape to QZCRX and record 50Hz, 100Hz, 200Hz, 500Hz, 1kHz, 4kHz, 8kHz, 10kHz, 12kHz and 14kHz signals. Then, playback the signals and check if the curve is within the limits shown in the overall frequency response chart for CrO₂ tapes (Fig. 20).</td>
</tr>
<tr>
<td>9</td>
<td>Switch the tape selector to Metal. Change test tape to QZCRZ and record 50Hz, 100Hz, 200Hz, 500Hz, 1kHz, 4kHz, 8kHz, 10kHz and 12.5kHz signals. Then, playback the signals and check if the curve is within the limits shown in the overall frequency response chart for metal tapes (Fig. 20).</td>
</tr>
</tbody>
</table>
| 10 | Confirm that bias currents are approximately as follows when the tape selector is set at different positions.  
   - Read voltage on VTVM and calculate bias current by following formula:  
     $$\text{Bias current (A)} = \frac{\text{Value read on VTVM (V)}}{10 (\Omega)}$$  
   - around 400μA (Normal position)  
   - around 600μA (CrO₂ position)  
   - around 1000μA (Metal position)  
   - measured at TP1 (L-CH) and TP2 (R-CH) |

**Overall frequency response chart (CrO₂, Metal)**

![Overall frequency response chart (CrO₂, Metal)](image)

**Fig. 20**

---

**1 Overall gain**

**Condition:**  
- Record/playback mode  
- Normal tape mode  
- Input level controls...MAX  
- Standard input level, MIC minus 72 ± 3.5dB  
- LINE IN minus 24 ± 3.5dB  

**Equipment:**  
- VTVM  
- AF oscillator  
- ATT  
- Oscilloscope  
- Resistor (600Ω)  
- Test tape (reference blank tape)  
- QZCRRA for Normal

1. Test equipment connection is shown in Fig. 21.  
2. Place the UNIT into normal tape mode and load the test tape (QZCRRA).  
3. Place UNIT into record mode.  
4. Supply 1kHz signal (−24dB) from AF oscillator, through ATT to LINE IN.  
5. Adjust ATT until monitor level at LINE OUT becomes 0.4V.  
6. Playback recorded tape, and make sure the value at LINE OUT on VTVM becomes 0.4V.  
7. If measured value is not 0.4V, adjust VR5 (L-CH), VR6 (R-CH) (See Fig. 2 on page 4).  
8. Repeat from step (2)

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**2 Fluorescent meter**

**Condition:**  
- Record mode  
- Input level controls...MAX

**Equipment:**  
- VTVM  
- AF oscillator  
- ATT  
- Oscilloscope  
- Resistor (600Ω)

1. Test equipment connection is shown in Fig. 21.  
2. As shown in Fig. 22, connect the base of Q33 and ground.  
3. Supply 1kHz signal (−24dB) to the LINE IN jack, then press the record button.  
4. Adjust the ATT so that the output level at LINE OUT jack becomes 0.4V (The input level at this condition is termed the standard input level).  
5. Adjustment at "−20dB":  
   A. Adjust the ATT so that input level is −20dB below standard recording level  
   B. Adjust VR7 so that the −20dB segment lights up in the −20 ± 0.8dB range (L-CH ONLY) (See Fig. 23)

![Fluorescent meter](image)

**Fig. 22**
CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM

NOTES:
- The circuit shown is on the conductor indicates printed circuit on the backside of the printed circuit board.
- Values indicated and DC voltage between the ground and electrical parts.
- All voltage values shown in circuits are under no signal condition.
- Unless otherwise specified, voltage measurement conditions are that tape travel is at STOP, tape mode is at NORMAL, and DOLBY NR switch is at OFF.
- Normal Voltage at normal tape mode
- Cuesheet OFF Voltage at modes other than cuesheet
- Stop Voltage at stop mode
- Playback Voltage at playback mode
- For measurement, use VTM
- The supply parts number is described alone in the replacement parts list.
- This circuit board diagram may be modified at any time with the development of new technology.
# CABINET PARTS LOCATION

## REPLACEMENT PARTS LIST

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Part Name &amp; Description</th>
<th>Reference Part No.</th>
<th>Part Name &amp; Description</th>
<th>Reference Part No.</th>
<th>Part Name &amp; Description</th>
<th>Reference Part No.</th>
<th>Part Name &amp; Description</th>
<th>Reference Part No.</th>
<th>Part Name &amp; Description</th>
<th>Reference Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>G.1.</td>
<td>[B] QGM20401</td>
<td>Main Case</td>
<td>G.2.</td>
<td>QY7800046</td>
<td>Bottom Cover Assembly</td>
<td>G.3.</td>
<td>QGM20404</td>
<td>Switch Button</td>
<td>QLM20007</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Black Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>G.4.</td>
<td>QLM20007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>[For United Kingdom]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>G.5.</td>
<td>QLM20007</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>[For Australia]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>G.6.</td>
<td>QLM20007</td>
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<td></td>
<td></td>
<td></td>
<td>G.7.</td>
<td>QLM20007</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>G.8.</td>
<td>QLM20007</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## PACKINGS

- **A.2** GDN20001: "Silver Type" (For Australia, Latin America, Middle East and African areas).  
- **Fitting** GDN20001: "Silver Type" (For Australia, Latin America, Middle East and African areas).  
- **G.1** QGM20401: "Silver Type" (For Australia, Latin America, Middle East and African areas).  
- **G.2** QGM20401: "Silver Type" (For Australia, Latin America, Middle East and African areas).  
- **G.3** QGM20401: "Silver Type" (For Australia, Latin America, Middle East and African areas).  
- **G.4** QGM20401: "Silver Type" (For Australia, Latin America, Middle East and African areas).  
- **G.5** QGM20401: "Silver Type" (For Australia, Latin America, Middle East and African areas).  
- **G.6** QGM20401: "Silver Type" (For Australia, Latin America, Middle East and African areas).  
- **G.7** QGM20401: "Silver Type" (For Australia, Latin America, Middle East and African areas).  
- **G.8** QGM20401: "Silver Type" (For Australia, Latin America, Middle East and African areas).  

## ACCESSORIES

- **A.1** SJH20411: Connection Cord  
- **A.2** GDN20001: "Silver Type" (For Australia, Latin America, Middle East and African areas).  
- **A.3** GDN20001: "Silver Type" (For Australia, Latin America, Middle East and African areas).  
- **A.4** GDN20001: "Silver Type" (For Australia, Latin America, Middle East and African areas).  
- **A.5** GDN20001: "Silver Type" (For Australia, Latin America, Middle East and African areas).  

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**SPECIFICATIONS**

- Pressure of pressure roller: 350 ± 50g
- Takeup tension: Use cassette torque meter to adjust (QZM20007)  
- Wave and flutter: Uses tape with 9.06% (QZM20007)
# Parts Change Notice

**Model No.**

RS-5

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Please revise the original parts list in the Service Manual to conform to the change(s) shown herein. If new part numbers are shown, be sure to use them when ordering parts.

### Reason for Change

*The circled item indicates the reason. If no marking, see the Notes in the bottom column.*

1. Improve performance
2. Change of material or dimension
3. To meet approved specification
4. Standardization
5. Addition
6. Deletion
7. Correction
8. Other

### Interchangeability Code

*The circled item indicates the interchangeability. If no marking, see the Notes in the bottom column.*

<table>
<thead>
<tr>
<th>Parts</th>
<th>Original</th>
<th>New</th>
<th>Early</th>
<th>Late</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
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</tr>
<tr>
<td>D</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td></td>
<td></td>
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</table>

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### Part Number

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>RS-5</td>
<td>R49, 50</td>
<td>ER025CKG2003</td>
<td>ERD25TJ184</td>
<td>1-C</td>
<td>Resistors</td>
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<td>R65, 66</td>
<td>ERD25FJ562</td>
<td>ERD25FJ332</td>
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<td>R210</td>
<td>ERD25FJ471</td>
<td>ERD25FJ391</td>
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<td>C3, 4</td>
<td>ECKD1H271KB</td>
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<td>ECQM1H223JZ</td>
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<td>C79, 80</td>
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<td></td>
<td>C210</td>
<td>ECEA1VS331</td>
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<td>C211</td>
<td>ECEA1CS331</td>
<td>ECEA1CS221</td>
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<td>C213</td>
<td>ECEA1VS102</td>
<td>ECEA1VSS471</td>
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<td>C214</td>
<td>ECEA1CS102</td>
<td>ECEA1CS471</td>
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</tbody>
</table>

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**NOTE:**

* Important safety notice
Components identified by Δ mark have special characteristics important for safety
When replacing any of these components, use only manufacturer's specified parts

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Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka, Japan
Printed in Japan
# Parts Change Notice

**Model No.**

RS-5

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**Reason for Change**

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<table>
<thead>
<tr>
<th>Reason for Change</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Improve performance</td>
<td></td>
</tr>
<tr>
<td>2. Change of material or dimension</td>
<td></td>
</tr>
<tr>
<td>3. To meet approved specification</td>
<td></td>
</tr>
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<td></td>
</tr>
<tr>
<td>5. Addition</td>
<td></td>
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<tr>
<td>6. Deletion</td>
<td></td>
</tr>
<tr>
<td>7. Correction</td>
<td></td>
</tr>
<tr>
<td>8. Other</td>
<td></td>
</tr>
</tbody>
</table>

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**Interchangeability Code**

*The circled item indicates the interchangeability. If no marking, see the Notes in the bottom column.*

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<thead>
<tr>
<th>Parts</th>
<th>Set Production</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>Original Early</td>
<td>Original or new parts may be used in early or late production sets.</td>
</tr>
<tr>
<td></td>
<td>New Late</td>
<td>Use original parts until exhausted, then stock new parts.</td>
</tr>
<tr>
<td>B</td>
<td>Original Early</td>
<td>Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts where possible, then stock new parts.</td>
</tr>
<tr>
<td></td>
<td>New Late</td>
<td>New parts only may be used in early or late production sets. Stock new parts.</td>
</tr>
<tr>
<td>C</td>
<td>Original Early</td>
<td>Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.</td>
</tr>
<tr>
<td></td>
<td>New Late</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Original Early</td>
<td></td>
</tr>
<tr>
<td></td>
<td>New Late</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Other</td>
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</tbody>
</table>

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**Part Number**

<table>
<thead>
<tr>
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File this Parts Change Notice with your copy of the Service Manual.

Original Service Manual is Model No. RS-5 Order No. ARD82050140C8-10.

Matsushita Electric Trading Co., Ltd.
PO. Box 288, Central Osaka Japan
Printed in Japan

Technics
National / Panasonic