OTARI

MX-5050 BQ II
PROFESSIONAL RECORDER

INSTRUCTION AND MAINTENANCE MANUAL

Edition No.2
Issued: November 1983
SECTION 1

GENERAL INFORMATION

The MX-5050 BQ II Recorder is a professional quality two-speed audio tape recorder/reproducer, designed for optimum performance and long life. It accommodates a 1/4-inch wide tape and two 7 1/2 ips (19.05 cm/sec.) and 15 ips (38.1 cm/sec.) tape speeds.

1-1 SYSTEM DESCRIPTION

Among the many professional features of the MX-5050 BQ II are: selective reproduction (SEL/REP), automatic motion sensing control by a proprietary microprocessor, an edit control that permits tape spilling, dynamic braking, an electronic tape timer, an adjustable cueing control for audible monitoring in fast forward and rewind, a dual frequency built-in test and cue-tone oscillator, adjustable record bias, equalization and level controls, XLR type connectors for input and output lines, separate line and microphone input level controls for each channel, a VU meter with a peak indicator for each channel, selecting switches for input and output levels, and a memory stop for automatically stopping the tape at a desired position except in record mode.
The specifications of the MX-5050 BQ are as listed in Table 1-3.

**Table 1-3 Specifications**

| Tape Width and Tracks: | 1/4 inch (6.3 mm) tape  
|                        | 4 tracks (0.037 inch or 0.94 mm track width) |
| Tape Speeds:           | 7 1/2 and 15 ips (19.05 and 38.1 cm/sec.)  
|                        | Maximum deviation: ±0.2% measured  
|                        | with 1.5 mil  
|                        | (0.038 mm) tape |
| Reel Sizes:            | 5, 7 or 10 1/2 inch plastic or metal,  
|                        | EIA or NAB   |
| Heads:                 | Four head stacks: 1/4" erase x 2  
|                        | (1-3, 2-4CH)  
|                        | 1/4" record  
|                        | 1/4" reproduce |
| Motors: Capstan:       | DC servo controlled motor  
| Reels:                 | (Pitch control range ±7%)  
|                        | Two torque motors |
| Rewind Time:           | Approximately 90 seconds for 2,500 ft  
|                        | (760 m) NAB reel |
| Operating Position:    | Vertical or at angle |
| Power Requirements:    | 100, 117, 220, 240 volts, 50 or 60 Hz,  
|                        | single phase AC |
| Power Consumption      | 100 watts |
Operating Environment: 40° to 104°F (5° to 40°C)  
20% to 80% Relative Humidity

Storage Environment: -5° to 113°F (-20° to 45°C)

Dimensions and Weight: Dimensions: 438 mm width, 269 mm depth, 527 mm height.  
17.3" width, 10.6" depth, 20.8" height  
Weight: 27 kg, 60 lbs.

Mounting Dark leatherette-finished cabinet.

Remote Control Unit: An optional remote control unit is used to control the record, play, stop, rewind, and fast forward modes. (CB-102)

Connectors: LINE INPUT, LINE OUTPUT: standard three-pin XLR.  
MICROPHONE, EXT OSC: standard single-conductor phone jack  
PHONES: standard two-conductor phone jack

Inputs: LINE: Minimum -6 or -18 dBm switchable, unbalanced 50 kohm.

MICROPHONE: Minimum -70 dBm, unbalanced.  
Applicable microphone impedance: 150 ohm to 1 kohm.  
The microphone attenuator switch may be set to the 0 or -20 dB position depending on the circumstances.  
Minimum -18 dBm, unbalanced 10 kohm.
Outputs: **LINE:**

+4 or -8 dBm switchable, unbalanced.
Load impedance: more than 600 ohm.
Maximum line output level:
+21 dBm with 600 ohm load

**Headphone Jack:**

-19 dBm with an 8 ohm load
Load impedance: 8 ohm or greater

**Equalization:**

NAB or IEC for 7 1/2 and 15 ips.

**Frequency Response:**

REC/PLAY
15 ips: 30Hz to 20kHz +2, -3dB
7 1/2 ips: 20Hz to 18 kHz +2, -3dB

SEL/REP
15 ips: 50Hz to 15 kHz +3 dB
7 1/2 ips: 50Hz to 12 kHz +3 dB
Specifications refer to a 1 kHz reference when recorded on 3M #226.

**Signal to noise ratio:**

<table>
<thead>
<tr>
<th>Tape speed / EQ.</th>
<th>NAB</th>
<th>IEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 ips</td>
<td>53dB</td>
<td>54dB</td>
</tr>
<tr>
<td>7 1/2 ips</td>
<td>53dB</td>
<td>54dB</td>
</tr>
</tbody>
</table>