

# **Instruction manual**

**MMC 2 R**

**MMC 3 R**

**MMC 4 R**

**MMC 5 R**

**Bang & Olufsen**

### **The MMC Principle**

At Bang & Olufsen we have been gradually improving the Moving Micro Cross, which has been the generating element in our cartridges for a number of years.

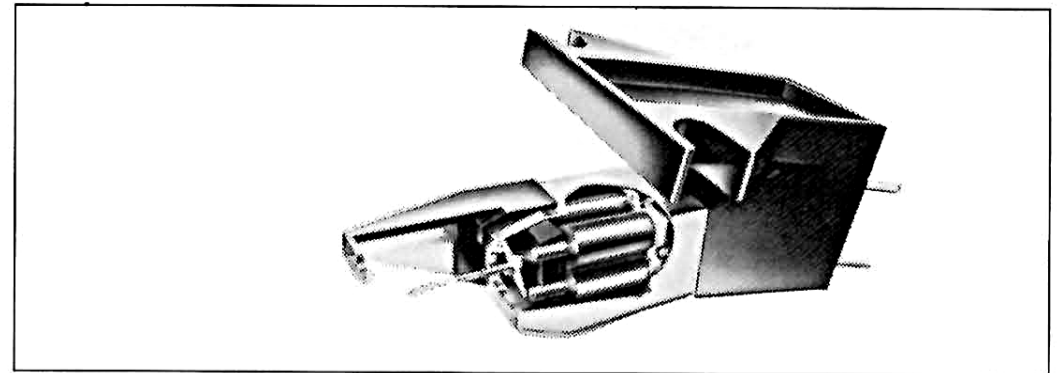
With the new MMC generation, the Moving Micro Cross is smaller and lighter than ever, which means less wear on your records. The precise engineering of the micro cross also provides superior channel separation.

By placing the micro cross in a powerful magnetic field we have succeeded in creating a cartridge of very small dimensions, while still retaining a high output voltage.

The minimum weight with bracket is only 3.3 grams, which gives the optimum compatibility with the best tone-arms on the market.

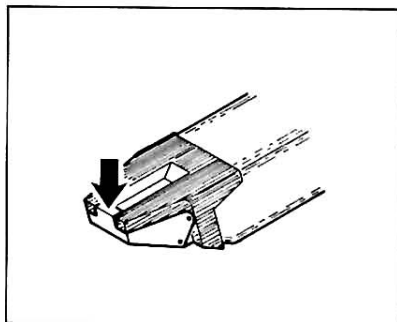
Information on the record is led via the stylus and cantilever to the micro cross. As a result the micro cross moves, causing variations in the powerful excitation current which comes from the fixed magnet and flows through both the micro cross and the four poles.

The varying excitation current is transformed into energy by the four push/pull coils wound on the poles and led to the amplifier via a cable.



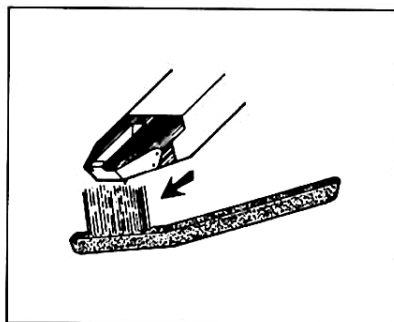
### **Stylus guard**

The MMC has a permanent stylus guard. Before playing a record, flip the guard up until it clicks. To protect the diamond and cantilever during removal flip the guard down with a fingernail until it clicks into its lowest position.



### **Cleaning the stylus**

We recommend you use a special cleaning brush to clean the stylus. With the stylus guard up, insert the brush under the metal part of the cartridge and brush forwards very carefully.



### **Date of purchase**

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YEAR

MONTH

DAY

Dealer's stamp and signature

**TECHNICAL SPECIFICATIONS**

## Stylus

Radius of curvature  
Cantilever  
Recommended tracking force  
Effective tip mass  
Compliance  
Frequency response  
Channel separation 1000 Hz  
50-15,000 Hz  
Channel difference  
Output voltage  
5 cm/sec. lat. RMS  
Cartridge weight without bracket  
Load: Resistance  
Capacity

**MMC 5R**

Elliptical diamond  
0.25 mm round  
titanium bonded  
6 x 17 $\mu$ m  
straight alu. tube  
15 mN/1.5 gram  
0.5 mg  
20 $\mu$ m/mN  
20-20,000 Hz  $\pm$ 3 dB  
>20 dB  
>15 dB  
<2.5 dB  
>0.6 mV/cm/sec.  
>2.12 mV  
1.6 gram  
 $\geq$ 47 kohms  
 $\leq$ 400 pF

**MMC 4R**

Elliptical diamond  
0.20 mm round  
titanium bonded  
6 x 17 $\mu$ m  
tapered alu. tube  
12 mN/1.2 gram  
0.4 mg  
25 $\mu$ m/mN  
20-20,000 Hz  $\pm$ 2.5 dB  
>22 dB  
>17 dB  
<2 dB  
>0.6 mV/cm/sec.  
>2.12 mV  
1.5 gram  
 $\geq$ 47 kohms  
 $\leq$ 400 pF

**MMC 3R**

Elliptical diamond  
0.15x0.15 mm sqr.  
nude  
6 x 17 $\mu$ m  
tapered alu. tube  
12 mN/1.2 gram  
0.35 mg  
25 $\mu$ m/mN  
20-20,000 Hz  $\pm$ 2 dB  
>25 dB  
>20 dB  
<1.5 dB  
>0.6 mV/cm/sec.  
>2.12 mV  
1.6 gram  
 $\geq$ 47 kohms  
 $\leq$ 400 pF

**MMC 2R**

Contact line diamond  
0.12x0.12 mm sqr.  
nude  
contact line  
sapphire tube  
10 mN/1 gram  
0.3 mg  
30 $\mu$ m/mN  
20-20,000 Hz  $\pm$ 1.5  
dB  
>25 dB  
>20 dB  
<1.5 dB  
>0.6 mV/cm/sec.  
>2.12 mV  
1.6 gram  
 $\geq$ 47 kohms  
 $\leq$ 400 pF