

The home of the turntable

# THE VINYL **ENGINE**®

For more turntable manuals and setup information  
please visit [www.vinylengine.com](http://www.vinylengine.com)



**fidelity-research®**

quality pick-up components

---

OPERATING INSTRUCTIONS  
MOVING COIL CARTRIDGE

---

**model**

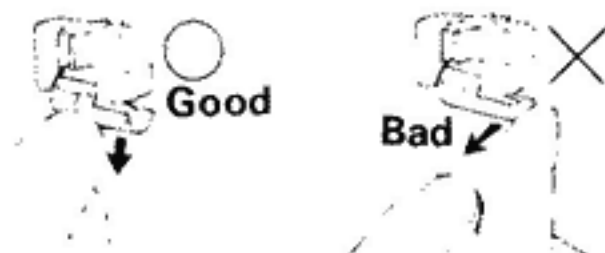
**FR-1 MK3**

---

## OPERATING INSTRUCTIONS

### Attention

When removing the stylus cover, be careful not to damage the stylus. Squeeze the cover from both sides and pull it off gently, as shown in the illustration below.



### Need for step-up transformer.

The output voltage of the FR-1 MK3 moving coil cartridge is too faint to be applied directly to the (MM) phono inputs of an amplifier. A step-up transformer, or a head amplifier, especially designed for MC type cartridges must be used.

**Adhere to the specified tracking force.**

The specified tracking force for the FR-1 MK3 is 2 grams. For optimum performance, this value must be strictly adhered to.

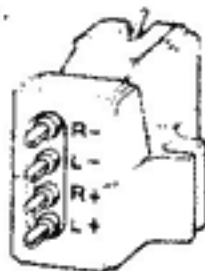
**Do not solder directly to cartridge output terminals.**

The head shell leads should not be soldered directly to the output terminals of this cartridge under any circumstances. The metal tips of the head shell leads must be "plugged" directly to the output terminals. If, however, the head shell is not equipped with metal tips, suitable tips must first be soldered to the head shell leads to facilitate direct plug in to the cartridge's output terminals.

If heat is applied to the cartridge terminals, connections inside the cartridge are likely to break. When

plugging in these tips, make sure that none of the tips are touching each other.

Note that the R+ terminal is for right channel hot (red), R- for right channel ground (green), L+ for left channel hot (white), and L- for left channel ground (blue). Make doubly sure that all connections have been performed correctly.



### **Room temperature should be at least 15°C**

If records are played at room temperatures below 15°C, the FR-1 MK3 cartridge may not perform at its optimum. At colder temperatures, the record surface tends to harden,

resulting in a quivering sound. Hence, it is recommended that this cartridge always be used at room temperatures above 15°C.

### **Stylus replacements**

The stylus employed in the FR-1 MK3 is a special line contact type which features a pressure between record groove and stylus of only about 1/5 that for the average elliptical stylus. That means considerably less wear, and longer operational life.

When the stylus does wear out, however, it will be necessary to replace it as soon as possible in order to avoid deterioration in cartridge performance, and to prevent any damage to record surfaces.

In this case, remove the complete cartridge from the head shell, and take it along to the designated audio store where the complete cartridge will be replaced

with a new one (at a replacement fee).

This is because the FR-1 MK3 is designed with a built-in stylus which cannot be removed simply like styli in MM type cartridges.

Furthermore, the FR-1 MK3 is also designed for stylus exchange with the FR-1 MK2 cartridge. The stylus of this model may be replaced by the FR-1 MK3 at the same designated audio stores.

### CAUTIONS

- Do not use liquid cleaners or sprays to clean the FR-1 MK3.
- Do not solder head shell leads to the output terminals of the FR-1 MK3.

### SPECIFICATIONS

Frequency response: 10 Hz ~ 40 kHz

Interchannel balance: Within 1dB at 1kHz  
Stereo separation: Better than  
—26dB at 1kHz, and  
—22dB at 20kHz  
Compliance:  $10 \times 10^{-6}$  cm/dyne  
Output voltage: 0.14mV at 5cm/sec.  
Load impedance: 10 ohm  
Tracking force: 2 grams  
Vertical tracking angle:  $15^{\circ}$   
Stylus tip: Line contact naked diamond  
Weight: 10 grams

### ACCESSORIES

Stylus cover  
Mounting screws: 2 long  
2 short

Specifications and design are subject to change without notice.

Printed in Japan