



**MODEL M98ED T-2**

**CUSTOM MAGNETIC  
CARTRIDGE**

**BIRADIAL (ELLIPTICAL) STYLUS**

**DATA SHEET**



## **SPECIFICATIONS**

**FREQUENCY RESPONSE:**

From 20 to 20,000 Hz

**OUTPUT VOLTAGE:**

4.7 millivolts per channel at 1,000 Hz at 5 cm/sec  
peak recorded velocity

**STYLUS:** Model N95ED Biradial (Elliptical)  
Side Contact Radius: 5 microns (.0002 in.)  
Frontal Radius: 18 microns (.0007 in.)  
Grip Color: Yellow

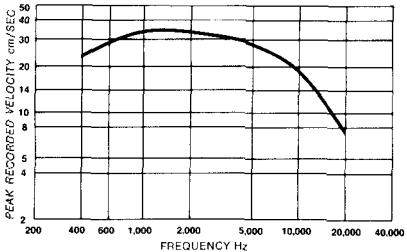
## **TRACKABILITY:**

This indicates how well a stylus can follow or track the signals in a record groove without losing contact. To provide an unbroken flow of signals from the record, the phonograph cartridge must be able to track the grooves. Signals recorded at a higher level (measured in cm/sec peak recorded velocity) are more difficult to track.

M98ED T-2 at a stylus force of 1 gram (in cm/sec peak recorded velocity):

400 Hz	—	24 cm/sec
1,000 Hz	—	33 cm/sec
10,000 Hz	—	19 cm/sec

(Higher stylus forces within specified range improve trackability.)



**TRACKABILITY CHART**

**TRACKING FORCE RANGE:**

3/4 to 1-1/2 grams

This is the amount of force required of the stylus tip to properly play a record. The lighter the tracking force within the recommended range, the longer the life of the stylus and records, provided that tracking is maintained.

**CHANNEL SEPARATION (minimum):**

25 dB at 1,000 Hz

**INDUCTANCE:**

650 millihenries

**D.C. RESISTANCE**

1550 ohms

### **OPTIMUM LOAD:**

47,000 ohms resistance in parallel with 400 to 500 picofarads total capacitance per channel. Load resistance can be up to 70,000 ohms with almost no audible change in frequency response. Total capacitance includes both tone arm wiring and amplifier input circuit.

### **MOUNTING:**

12.7 mm (standard 1/2 in.) mounting centers

**WEIGHT:**

6.3 grams

**TERMINALS:**

4 terminals

**OPERATION:**

The M98ED T-2 DYNETIC® phonograph cartridges have been developed for use with all high fidelity amplifiers having magnetic and constant velocity inputs. Recommended tracking force is  $3/4$  to  $1-1/2$  grams. Forces greater than  $1-1/2$  grams should not be used.



## **Mounting**

The M98ED T-2 DYNETIC® Cartridge has 12.7 mm (standard 1/2 in.) mounting centers. Hardware is supplied with each cartridge for mounting purposes. In some tone arms and plug-in shells, the cartridge sits so deep that the stylus cannot be conveniently replaced. For these applications, spacers are provided to insure adequate clearance for stylus removal.

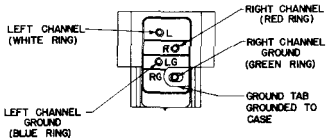
For optimum vertical tracking angle, the cartridge should be mounted so the top of the mounting block is parallel to the record playing surface.

## **Connections**

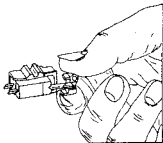
**4-LEAD STEREO CONNECTION:** Connect "hot" lead (usually red) of right channel to terminal "R" and shield or ground lead of right channel (usually green) to terminal "RG". Connect "hot" lead of left channel (usually white) to terminal "L" and shield or ground lead of left channel (usually blue) to "LG". To prevent "ground loops" and hum, no common connection should be used at cartridge terminals.

**MONOPHONIC OPERATION:** For monophonic playback, connect left and right channels in parallel. This is accomplished most conveniently by setting function switch on associated amplifier to "A+B" or "MONO".

**CAUTION:** Do not make solder connections to cartridge terminals.



**TERMINAL DIAGRAM**  
**FIGURE 1**



**STYLUS REPLACEMENT**  
**FIGURE 2**

## **Recommended Stylus Cleaning**

Use a camel's hair brush (No. 2 size or smaller), trimmed to approximately 6 mm (1/4 in.) dipped in alcohol or an alcohol-distilled water solution. Commercial cleaning solutions may cause stylus damage or corrosion. The alcohol will remove any sludge deposit coating the stylus tip. Always brush stylus from back to front; never brush or wipe stylus from front to back or side to side.

## **Easy Stylus Replacement (see Figure 2)**

*Grasp molded housing of stylus between thumb and forefinger. Gently withdraw stylus by pulling forward out of cartridge. Grasp replacement stylus between thumb and forefinger and insert into stylus socket. Press stylus into socket until the molded housing of the stylus mates with the cartridge case. Care must be taken not to allow the finger to slip off the molded housing of the stylus, resulting in damage to the stylus tip or shank.*

**SPECIAL NOTE:** To maintain the original performance standards of your cartridge, be certain that any replacement stylus you buy is precision manufactured by Shure Brothers Inc. **AVOID INFERIOR IMITATIONS. THEY WILL SERIOUSLY DEGRADE THE PERFORMANCE OF YOUR CARTRIDGE. ALL GENUINE "DYNETIC®" STYLI ARE MANUFACTURED BY SHURE BROTHERS INC. LOOK FOR THE NAME SHURE ON THE STYLUS GRIP. For more information on your Shure stylus, write for booklet: "A Visit to the Small World of a Stylus."**

**FULL ONE YEAR WARRANTY:** Shure Brothers Incorporated ("Shure"), 222 Hartrey Avenue, Evanston, Illinois 60204, warrants to the owner of this product that it will be free, in normal use, of any defects in workmanship and materials for a period of one year from date of purchase. You should retain proof of date of purchase. Shure is not liable for any consequential damages. If this Shure product has any defects as described above, carefully re-pack the unit and return it prepaid to:

Shure Brothers Incorporated  
Attention: Service Department  
1501 West Shure Drive  
Arlington Heights, Illinois 60004

If you are not in the United States, return the unit to your dealer or Authorized Service Center for repair. The unit will be repaired or replaced and returned to you promptly, and if it cannot be repaired or replaced, you may elect to receive a refund. This warranty does not include stylus wear.

**PATENT NOTICE:** Cartridge and stylus manufactured under one or more of the following U.S. Patents 3,055,988, 3,077,521, 3,077,522 and 3,463,889.

**Manufactured by Shure Brothers Inc.  
222 Hartrey Ave., Evanston, IL 60204 U.S.A.**

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