**MODEL M32E**

**DATA SHEET**

**STEREO DYNETIC®**

**PHONOGRAPH CARTRIDGE**

**SPECIFICATIONS**

### M31 AND M32 CARTRIDGE SERIES

<table>
<thead>
<tr>
<th>Model</th>
<th>Diamond Stylus Replacement</th>
<th>Output Voltage (1,000 Hz, at 5 cm/sec)</th>
<th>Stylus Color</th>
<th>Compliance (Vertical, Horizontal, cm per dyne)</th>
<th>Tracking (Grams)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M31E</td>
<td>N31E Elliptical</td>
<td>10.5 millivolts</td>
<td>Yellow</td>
<td>15.0 x 10^-4</td>
<td>1 to 2</td>
</tr>
<tr>
<td></td>
<td>Side Contact Radius: .0002&quot; (.005 mm)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Frontal Radius: .0007&quot; (.018 mm)</td>
<td></td>
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<tr>
<td>M32E</td>
<td>N32E Elliptical</td>
<td>9.3 millivolts</td>
<td>Brown</td>
<td>10.0 x 10^-4</td>
<td>2½ to 5</td>
</tr>
<tr>
<td></td>
<td>Side Contact Radius: .0004&quot; (.010 mm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frontal Radius: .0007&quot; (.018 mm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M31</td>
<td>N32-3, Series</td>
<td>5.5 millivolts</td>
<td>Green</td>
<td>10.0 x 10^-4</td>
<td>2½ to 5</td>
</tr>
<tr>
<td>M32</td>
<td>N32-3, Series</td>
<td>5.5 millivolts</td>
<td>Green</td>
<td>10.0 x 10^-4</td>
<td>2½ to 5</td>
</tr>
<tr>
<td></td>
<td>Radius: .0025&quot; (.064 mm)</td>
<td></td>
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</tbody>
</table>

**NOTE:** The M32-3 is supplied wired for Monaural recordings. Double loop pin jacks are attached between the “R” and “L” terminals and between the two ground terminals. For Stereophonic channel reproduction of Stereophonic recordings, remove the double loop pin jacks and use an N32E stylus. For single channel reproduction of Stereophonic recordings, do not remove the double loop pin jacks but use an N32E stylus.

The N32-3 stylus may be used to reproduce the standard 78 rpm records. In this case, the amplifier should be set to “Monaural” or A+B.

**FREQUENCY RESPONSE:** From 20 to 18,500 Hz (M31E) From 20 to 17,500 Hz (M32E)

**CHANNEL SEPARATION:** More than 20 db at 1,000 Hz

**RECOMMENDED LOAD IMPEDANCE:** 47,000 ohms per channel

**INDUCTANCE:** 720 millihenries

**D.C. RESISTANCE:** 680 ohms

**MOUNTING:** Standard 1/2" (12.7 mm) mounting center

**WEIGHT:** 6 grams

**TERMINALS:** 4 terminals

**GENERAL:** The M31 and M32 Series of Dynetic phonograph cartridges have been developed for use with all high fidelity amplifiers having magnetic and constant velocity inputs.

**OPERATION:** Recommended needle forces for optimum results are listed under “Specifications.” Forces greater than the indicated “maximum” should not be used.

**CONNECTIONS**

4-LEAD STEREO CONNECTION: Connect “hot” lead of right channel to terminal “R,” and shield or ground lead of left channel to terminal “L.”

To prevent “ground loops” and hum, no common connection should be used at cartridge terminals.

MONOAURAL CONNECTION: For single channel reproduction of Monaural or Stereophonic recordings, connect “hot” lead to both “R” and “L” terminals and connect ground or shield lead to both ground terminals marked “RG” and “LG.”

**CAUTION:** Do not make solder connections to cartridge terminals. Make all solder connections to terminal jacks provided before slipping them over the terminals.
Suggestions for Cleaning Your Stylus

To clean the stylus, use a camel's-hair brush (No. 2 size or smaller) dipped lightly in alcohol. The alcohol will remove any sludge deposits which may have coated the stylus tip. The brush bristles should be trimmed to a length no longer than 1/4 inch.

Always brush the stylus with a forward movement from the rear (terminal end of the cartridge) to the front. Never brush or wipe the stylus from front to back or side to side.

EASY STYLUS REPLACEMENT

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 tip or shank.

SPECIAL NOTE: The Dynetic stylus assembly used in these cartridges is the most critical component. To maintain the original performance standards of your cartridge, be certain that any replacement stylus you buy bears the following certification on the package: “This Dynetic stylus 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.

LABORATORY TEST FINDINGS: (Note: The following stylus test findings of the Shure N3D stylus are examples of close scrutiny Shure pays to all imitation Shure Dynetic Stylus.) Shure laboratory tests show that the imitation stylus assemblies labeled as replacements for the Shure Model N3D Stylus Assembly vary dramatically.

In important performance characteristics the following came to accidental examination: The compliance varied from a low of 0.9 to a high of 11.5, requiring 3.0 grams to track a record with a low compliance stylus, and 2 grams with a high compliance stylus. The stylus was retracted at 4 grams needle force, allowing the cartridge case to drag on the record surface, thereby becoming inoperative. Response at high frequency (relative to the 1kc level) ranged from a 5.5db peak to a drop of 7.5db. Separation varied from “good” (27db) to “poor” (16.5db) at 1kc. These figures reveal that there is very little consistency in performance characteristics of the imitation Dynetic Stylus.

In each of the categories shown above, the results ranged from good to poor: As a matter of fact, only 10% of the samples met the Shure performance standards for the Shure N3D Stereo Dynetic Stylus. In addition to our test findings, our Service Department records show that an increasing number of Dynetic Phonograph Cartridges are being returned because of poor performance and our examination has disclosed that most of these returned cartridges are using imitation Dynetic Stylus.

CONCLUSION: Obviously, if any imitation Dynetic Stylus is used, we cannot guarantee that the performance of Shure Dynetic cartridges will meet the published Shure specifications. Accept no substitute.

Guarantee

The M31 and M32 Stereo Dynetic Cartridges and N31 and N32 Stereo Dynetic Stylus are guaranteed to be free from electrical and mechanical defects for one year from date of shipment from factory, provided all instructions are complied with fully. The Guarantee does not cover stylus wear, nor does it cover damage to the stylus assembly from abuse or mishandling.

Service Protection—Accidental Damage

Shure Dynetic Stylus will withstand long, continued usage. However, the stylus assembly should not be subjected to accidental mishandling, and diamond tip is still intact, return the stylus assembly to the factory for servicing and testing to original performance standards at a nominal service charge of $5.50. This price is only applicable when the customer returns the stylus direct to the factory in Evanston. In Canada, send to Canadian address shown below. (Prices proportionately higher in Canada.) Please enclose a check for the service charge with the returned assembly.

Return Stylus to: In Canada return stylus to:

Service Department Service Department
A. C. Simmonds and Sons, Ltd.
285 Yorkland Boulevard 222 Hartrey Avenue
Evanston, Illinois 60204 Agincourt, Ontario
Canada U.S.A.

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