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SHURE

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**MODEL 721D STEREO  
CUSTOM MAGNETIC  
CARTRIDGE  
(Stylus Model N21D)**

**DATA SHEET**

**SPECIFICATIONS**

**RESPONSE FREQUENCY CHARACTERISTICS:** From 20 to 20,000 c.p.s.

**OUTPUT VOLTAGE:** 5 millivolts per channel at 1000 cps at 5 cm/sec.

**CHANNEL SEPARATION:** More than 20 db at 1000 cps.

**RECOMMENDED LOAD IMPEDANCE:** 47,000 ohms (per channel) for Stereo. 22,000 ohms for Monaural (see connections). Higher values will produce a slight increase in high frequency response.

**STYLUS:** Shure Model Number N21D.  
Radius .0007" (0.018 mm) Diamond.

**COMPLIANCE:** VERTICAL {  $9.0 \times 10^{-6}$  centimeters  
HORIZONTAL } per dyne

**TRACKING FORCE:** 2 grams optimum.

**INDUCTANCE:** 420 millihenries.

**D. C. RESISTANCE:** 280 ohms.

**TERMINALS:** 4 terminals. An independent ground terminal for each channel. (See Fig. 1).

**MOUNTING:** Standard  $\frac{1}{2}$ " (12.7mm) mounting centers using #3 or 4 machine screws. .437 (11.1mm) mounting centers using #2 machine screws.

**WEIGHT:** 7.9 grams (.28 ounces)

**GENERAL:** The Model 721D Stereo Custom Magnetic Phono Cartridge has been developed for use in all high fidelity applications. It has been designed to connect into magnetic and constant velocity inputs.

The Model 721D is completely compatible. In other words, the Model 721D will play Stereo Discs Stereophonically, Monaural Discs Monaurally, and Stereo Discs Monaurally without excessive wear and without distortion.

The Model 721D utilizes the high quality Moving Magnet principle offering the following performance features:

High needle compliance.

Low needle talk.

Low tracking forces.

Wide range frequency response.

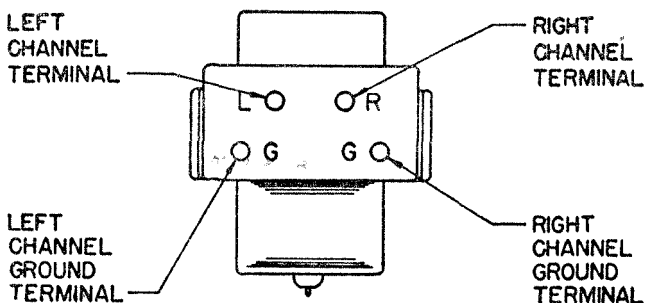
Magnetic induction from external fields is reduced to a minimum.

No magnetic attraction to steel turntables.

**MOUNTING:** The 721D Cartridge has standard  $\frac{1}{2}$ " (12.7mm) mounting centers. By using #2 machine screws, the cartridge can be mounted on .437 (11.1mm) mounting centers. It is important, during installation, that the line on the front of the cartridge be perpendicular to the turntable or record surfaces. If no adjustment is available to do this, a paper or metal shim can be used on one mounting post to adjust angle of cartridge.

**OPERATION:** The recommended needle point force for optimum results is 2.0 grams. Forces greater than  $2\frac{1}{2}$  grams should not be used. The 721D should be installed in an arm especially designed for low tracking forces and having very low friction at all bearing surfaces.

**CONNECTIONS:** The 721D cartridge utilizes a 4 terminal arrangement for connections having a separate ground terminal for each channel. (See Figure 1).



TERMINAL DIAGRAMS  
FIGURE 1

For Stereo reproduction terminal R and its ground terminal represent the right channel (outside groove wall). Terminal L and its ground terminal represent the left channel (inside groove wall).

To use a 4-lead arrangement connect each section of the cartridge to separate amplifiers. To prevent "ground loops" and hum, no common connection should exist between the two amplifier systems.

When used with a 3-lead arrangement, the shield lead should be connected to both of the ground terminals at the cartridge. No other common ground connection should exist.

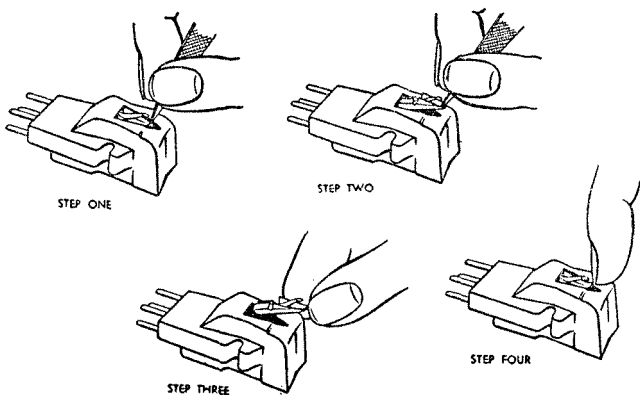
For single channel reproduction of Monaural or Stereo recordings, connect the "hot" lead to both R and L terminals and connect the ground or shield lead to both of the ground terminals marked G.

**CAUTION:** Do not make solder connections to cartridge terminals. Make all solder connections to terminal jacks provided.

### STYLUS REPLACEMENT

**SPECIAL NOTE:** Because the stylus-magnet assembly plays such an extremely important part in the overall performance, be certain that any replacement stylus is a genuine Shure "Stereo Dynetic" stylus.

The stylus assembly, when installed in the cartridge is practically immune to damage during normal usage. However, care should be taken to avoid bending or distorting the stylus assembly when it is installed or removed.



STYLUS REPLACEMENT  
FIGURE 2

Stylus replacement is simple and fast. (See Figure 2). To replace (Step 1)—Insert fingernail file (or a similarly pointed tool) behind the lip at the front of the stylus spade. Care must be taken not to deform stylus shank (portion holding stylus tip) or spring wire in the stylus assembly. (Step 2)—Withdraw stylus by pulling forward out of cartridge—lift completely out with thumb and forefinger. (Step 3)—Grasp new stylus between thumb and forefinger and insert into stylus socket cartridge. (Step 4)—Press stylus into socket until it is firmly seated. Apply pressure at the front portion of the spade. Care must be taken not to allow the finger to slip off the front of the stylus spade resulting in damage to the stylus tip.

**GUARANTEE:** The 721D Stereo Cartridges are guaranteed to be free from electrical and mechanical defects for one year from the date of shipment from the 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.

**PATENT NOTICE:** Manufactured under U.S. patents 3,055,988, 3,077,521, 3,077,522, and D187,230. Other patents pending.