

Shure Model M91E "Hi-Track" Stereo Phono Cartridge

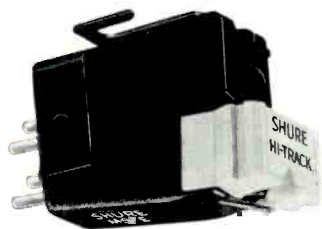


Fig. 1

MANUFACTURER'S SPECIFICATIONS:

Frequency Response: 20 to 20,000 Hz. Channel Separation: More than 25 dB at 1000 Hz. Load Impedance: 47,000 ohms. Stylus Tip: Elliptical. (.0002 x .0007 diamond). Tracking Force: $\frac{3}{4}$ to $1\frac{1}{2}$ grams. Output Voltage: 1 mV/cm/sec. Weight: 5 grams. Price: \$49.95.

The Shure M91, M92, and M93 Series of stereo cartridges are similar models, each designed for use with different stylus forces. The M91 model operates at the lowest tracking force of the three. The cartridges incorporate the company's new "Easy-Mount" bracket which snaps off the cartridge for mounting in the tone-arm head or plug-in shell. If nothing else, this is a useful safety measure, since it is easy to damage the stylus bar accidentally while installing a cartridge in the shell, even though it is usually recommended that the stylus assembly be removed while the installation is being done.

The spring-metal clip installs very easily, since one starts the screws without the clip, and then slides the clip against the screws which fit into slots rather than holes. Then the cartridge is snapped into the clip, the leads attached, and finally the stylus assembly is pushed into place—all without a single possible bit of damage.

The M91E cartridge is purported to be the lower-priced version of the V15-II, much as the M55 series was purported to be the mate to the earlier V15. The stylus assemblies are not interchangeable, however, but they appear to be similar in some respects, and listening tests prove that the two *sound* very much alike over a wide range of listening material.

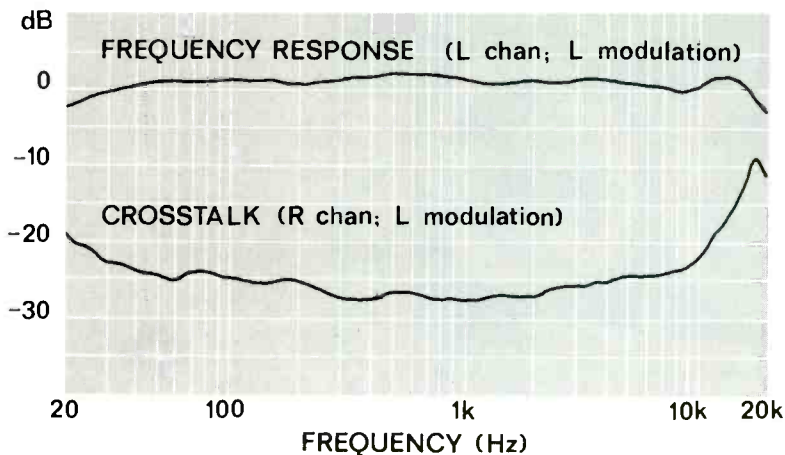


Fig. 2 — Frequency response and channel separation.

Response measured quite smooth from 20 to 20,000 Hz, easily within ± 2 dB, with the minor peak at about 12,000 Hz, which was barely above the 1000 Hz response, and only 2 dB above the small valley at 8000 Hz. Separation ranged from 17 dB at 20 Hz to 29 dB at 1000 Hz, decreasing gradually to 23 dB at 10,000 Hz, then drooping to 6 dB at 17,000. Overall, an excellent performance. Both channels' curves were within ± 1 dB, with the only difference between the two being a 2 dB greater sensitivity on the right channel as compared to the left—easily corrected by the balance control. As to hum susceptibility, the M91E gave a S/N of 58 dB through a normally compensated amplifier, which is exceptionally good. For the frequency response and separation measurements, we used the CBS test record, STR-100, and measured an output of 1.4 mV/cm/sec.

We have long been accustomed to the sound from the V15-II, and this undoubtedly explains why the M91E seems to sound so good to our ears—they are so very much alike. Response is clean and crisp, with excellent separation of the instruments so that a clarinet sounds like a clarinet should, and an oboe sounds like an oboe should. Strings are bright and well defined, and make listening to a quartet a real joy.

Tracking ability measured close to the manufacturer's specification, and at a force of one gram, we were able to play a 25-cm/sec 1000-Hz groove without any distortion of the signal. The square-wave response is shown in Fig. 3, which is quite acceptable for a cartridge reproducing a square wave from a phonograph record. The transient re-

sponse is indicated by the cleanness of the square-wave patterns, and with one look at these patterns, we would certainly judge the M91E as a fine cartridge.

The ease with which this cartridge can be mounted in the pickup shell is certainly a factor in its favor, since an inexperienced cartridge installer could certainly have his troubles with some cartridges. That's half the battle—particularly if you're going to do the installing yourself, instead of having it done by your dealer.

One added advantage to the M91E is that if you ever want to "retire" it to some turntable or arm which is not as perfect as your No. 1 system, you can do so easily by simply changing stylus assemblies. The M91E is normally equipped with the N91E elliptical stylus, which is designed for a tracking of $\frac{3}{4}$ to $1\frac{1}{2}$ grams, but you can install any of four other stylus assemblies to accommodate forces up to 3 grams with elliptical styli, or with a conical stylus, for light forces for LP's, or with a conical stylus for 78's. So you can always find a use for the M91E, even if some other product succeeds in convincing you away from it temporarily.

Check No. 51 on Reader Service Card

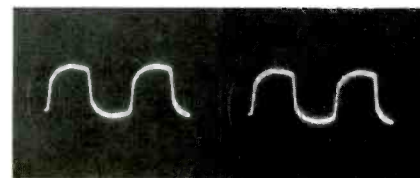


Fig. 3—Square-wave photos: left channel, 5 cm/sec and 3.54 cm/sec velocity.