

EMPIRE STEREO PICKUP, MODEL 880p

The Empire 880p is the professional (that's what the "p" represents) version of the Model 880. The 880p is intended for top-quality turntables and tonearms; the 880 is designed for use in changers and automatic turntables.

The 880p operates on the moving-magnet principle which involves moving a magnet attached to the end of the stylus bar away from the diamond tip. The magnet moves in the vicinity of four symmetrically-placed coils which pick up the slightest movement of the magnet and translates it into an electrical signal. This signal is proportional to the amplitude of movement—a large excursion of the magnet will induce more current into the coils. The direction of movement is indicated by means of the amount of signal each coil receives. Thus a movement up and to the left, for example, will induce signal mainly into the lower and right coils.

The 880p consists of three main assemblies: The stylus assembly containing the stylus, its pivot, a protective tube, and a plastic cap; the front assembly which holds the stylus assembly in proper tracking position; and the back assembly which contains the coils, the mount assembly for the tonearm shell, and the four electrical connections. The front and back assemblies

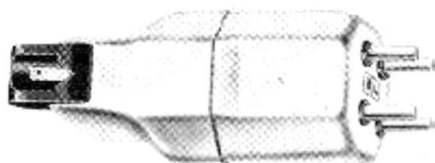


Fig. 6. Empire Stereo Pickup, Model 880p.

are sheathed in mumetal to prevent hum pickup. The stylus-tip radius is 0.6 mil.

Replacing a stylus is a simple procedure which does not require professional competence; one merely unscrews the screw whose head protrudes at the front of the cartridge, separates the front and back assemblies, pulls out the stylus assembly by grasping the plastic cap, and inserts the new assembly in its place.

Performance

The 880p conforms to the standard 15-deg. vertical tracking angle, although it was designed before the significance of this angle was fully realized. In conversations with some of the Empire people we discovered that their selection of the 15-deg angle was based on their projection (and "guesstimate") of the angle which would produce least distortion for the greatest amount of available records. An inspired guess.

At 1000 cps, and at 5.5 cm per second, the output was 7.2 mv per channel. Frequency response from 20-20,000 cps was within 4.5 db, and up to 15,000 cps it was within 1 db. Stereo separation was 25 db at 1000 cps. With a 400 and 4000 cps test signal, amplitude 4:1, tracking force 1-3 grams, IM distortion remained within 5 per cent. The optimum force for minimum distortion was 2 grams.

In listening tests the 880p turned in an exceptionally fine performance, its handling of music confirmed the flatness of its frequency response measurement and the low distortion. In addition its handling of transients was truly excellent. Without question, the Empire 880p is one of the finest cartridges tested to date. And its price of just under \$20 makes it a great value.

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