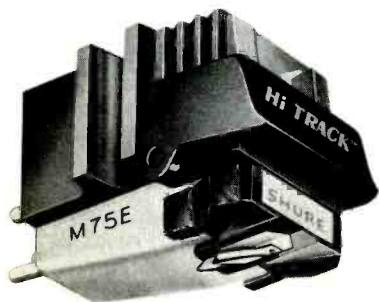


# EQUIPMENT PROFILES

## SHURE MODEL M75E STEREO CARTRIDGE



### MANUFACTURER'S SPECIFICATIONS—

Frequency Response: 20-20,000 Hz. Channel Separation: More than 25 dB at 1,000 Hz. Recommended Load Impedance: 47,000 ohms per channel. Inductance: 720 millihenries. D.C. Resistance: 630 ohms. Mounting: Standard 1/2" (12.7 mm) mounting centers. Weight: 6 grams. Terminals: 4. Trackability with 1 gram at 400 Hz, 18 cm/sec; at 1000 Hz, 25 cm/sec; at 10,000 Hz, 14 cm/sec. Recommended tracking force: 3/4 to 1 1/2 grams. Output Voltage (1000 Hz at 5 cm/sec): 5.7 mV. Elliptical Stylus with Side Contact Radius: .0002-in. Frontal Radius: .0007-in. Price: \$39.50.

The Shure M75E cartridge is the top of the M75 series of cartridges. It is the elliptical successor to the M75-6 and is similar in design to the V15 Type II "Supertrack" cartridge. The M75E has a replaceable stylus assembly that is interchangeable with that of the V15 Type II, as well as others in the M75 series. It, too, incorporates a convenient swing-away stylus guard.

For tests, the M75E was mounted in a Garrard Model SL95 automatic turntable, with tracking force set to

1.3 grams. Frequency response and crosstalk, as measured using CBS Labs.' STR100 test record, is shown in Fig. 2. The frequency response is smooth, with a minor dip at 7 kHz and a 3 dB peak at 14 kHz. Separation is good, being in excess of 20 dB throughout most of the spectrum, and exceeds 25 dB at 1 kHz, as specified.

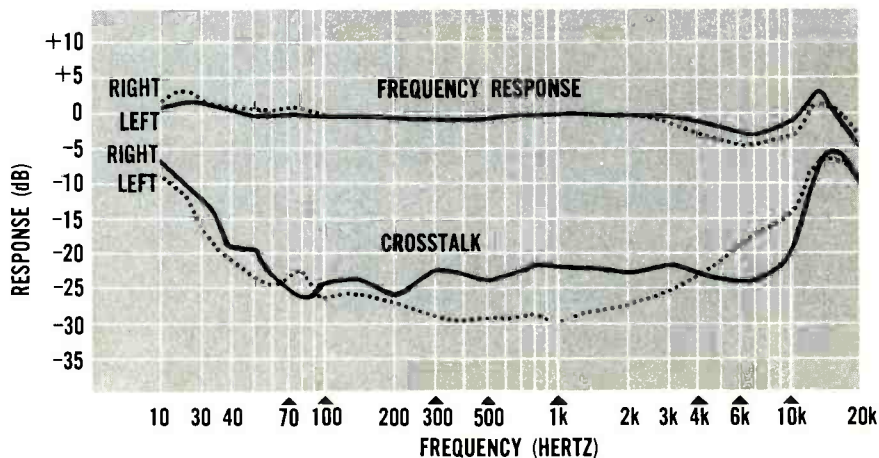
In the tracking department, a Shure forte, the M75E sailed flawlessly through the 12 dB band of CBS Labs.' STR111, which is cut at about as high a velocity as any commercially available record. This assures that the M75E will probably track anything you've got. It tracked everything we've got!

Sensitivity measured 7 mV and 7.4 mV for left and right channels, respectively, referred to 3.54 cm/sec rms, 45 deg. velocity at 1 kHz. Hum was way down at -59 dB through a wide-band RIAA preamplifier; the vertical tracking angle was measured to be

about 16. IM distortion was below average for the popular moving-iron design. Square-wave tracking tests, as shown in Fig. 3, substantiated the cartridge's excellent frequency response and tracking ability. The damped oscillation shown at the leading edge of the square waves is caused by the small 14 kHz peak. Without it, the leading edge would not have been as steep and the cartridge would have probably missed the mark just a bit in the transient response department. The slight rounding at the top of the wave is caused by the M75E's elevated bass response.

The final test of a cartridge's "metal" is always listen, listen, listen to it playing back a variety of recorded material. And after this is done, listen again. There are some particularly fine records for this purpose; everyone has a favorite or two. A superb one used here was Benjamin Britten's *Cantata Misericordium* with the London Symphony

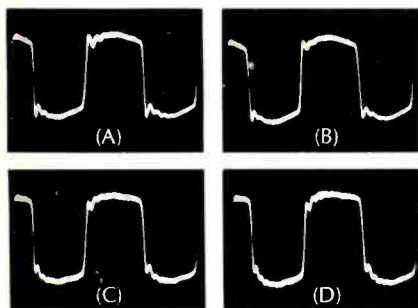
Fig. 2—Frequency and crosstalk response of Shure M75E stereo cartridge (mounted in a Garrard SL95 automatic turntable).



Orchestra and chorus, Britten conducting; Pears and Fischer-Dieskau, vocal (the other side is equally fine: *Symphonia da Requiem, Op. 20*). This modern music, on London stereo disc 25937, is recorded clear as a bell, and it has plenty of percussion and brass to titillate listeners. So it was one of a number used to put the M75E through its paces.

The M75E sounded clean, much like the excellent, higher-priced Shure V15 Type II. Its sound is on the neutral

Fig. 3—M75E's responses to square waves from a CBS STR111 test record. (A) left channel, lateral 5 cm/sec velocity; (B) right channel, vertical 5 cm/sec; (C) left channel, left 3.54 cm/sec; (D) right channel right 3.54 cm/sec.



side, neither obviously bright nor dull. Only on super highly-modulated source material could a difference between it and the V15 Type II be noticed, in which case the V15 Type II tracked a smidge better and had better separation.

We'd call the M75E a "poor man's V15 Type II" if we had to characterize it. True, it does not offer the *n*th degree in silky, transparent reproduction, but, generally, this performance pinnacle is limited to cartridges costing much more than the \$39.50 M75E. Except for the most critical listening demands, it will do its job well in any modern tone arm. It is an appropriate mate for any of the better automatic turntables available today, especially when budget considerations do not allow one to grab for that extra wisp of realism with a higher-priced cartridge.

Check 44 on Reader Service Card.

## TWO TELEX HEADSETS— THE AMPLITWIN and SERENATA II

**MANUFACTURER'S SPECIFICATIONS—**  
**AMPLITWIN**—Acoustic response: 16 to 15,000 Hz. Distortion: Less than 1% at 1000 Hz with 25 mW output. Current drain: 3 mA, no signal. Signal-to-Noise ratio: -50 dB. Batteries: Two 9-volt transistor radio type. Headset impedance: 45 ohms at 1000 Hz each channel. Speaker sensitivity: 1 mW (0.22 V. across 45 ohms) produces 95 dB SPL in both cups. Max Input: 1 W. Weight: 26 oz. (with cords). Price: \$79.50 (excluding batteries).

Want a pair of headphones for normal applications? Want a pair of headphones with which you can hear records played by a magnetic pickup, ceramic pickup, or tape deck *without an external amplifier*? Then you probably want a Telex "Amplitwin." This headphone pair consists of the usual small loudspeakers in a suitable housing, together with a four-transistor amplifier with volume controls. The integrated amplifier has suitable gain and equalization to bring the signals from a magnetic phono cartridge up to the same level you would normally use for listening with the usual type of phones when plugged into the phone jack of an amplifier. Cables (two sets), terminated with RCA pin-type plugs, are detachable.

In appearance, the Amplitwin phone resembles most any headphone except for a compartment on the back which accommodates a 9-volt transistor radio battery. The battery is accessible by removing an aluminum cover plate, which can be done without tools. Internally, the amplifier is assembled on a glass epoxy etched circuit board which circles the 2½ x 3½-in. cone. The housing is also fitted with a miniature slide switch, a volume control, and two phono jacks labeled "HI" and "LO." Two 9-ft. phono-tipped connecting cables are supplied. For conventional use, connections are made to the HI jacks, and the switch is left in the off

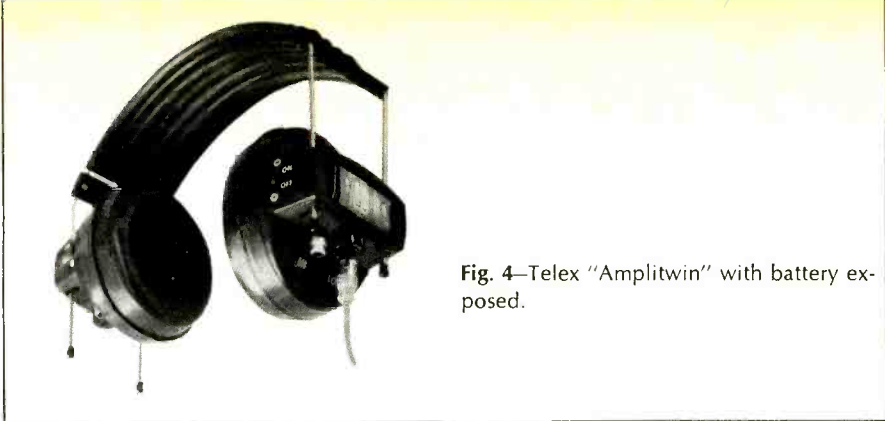


Fig. 4—Telex "Amplitwin" with battery exposed.

position. In this use, the connections are made directly from the external amplifier source to the speaker cones. To listen to the output of a tuner or a ceramic cartridge, leave the connections in the HI jacks and simply turn on the switches. These actuate the amplifiers and switch the speaker cones from the jacks to the output of the amplifiers. The connection from the HI jack to the top of the volume control is through a 620k ohm resistor which is bypassed by a small capacitor to decompensate for the equalization in the built-in amplifier.

To listen to the output of a magnetic cartridge or to a tape head, the cables are moved to the LO input jacks and the amplifiers turned on. This provides the same acoustic output—a SPL of 95 dB—from a 5-mV signal as is obtained from a 220-mV signal in the HI jacks without amplification. In any case, there is ample volume for satisfactory listening in any of the three modes.

Obviously, considerable "human engineering" has gone into the design of this pair of phones. The two units are not identical, which, of course, makes for a more expensive construction. They are mirror images of each other, so that the LO input jacks are toward the front in both phones, the HI jacks toward the rear. The switches are on the back side of the cups when on the user's head. The volume controls, which are between the input jacks, both increase volume as the knob is rolled forward, and the switches are "on" when in the raised position, being in the logical position to be reached by the forefinger of each hand.

The cups are molded plastic, with the plastic molded grille in front of the speakers having the letters L and R molded in as a part of the design. The phones are supported by two spring steel wires which pass through the cups under a spring tension, and tipped with plastic knobs. These wires are held apart by two plastic clamps—one at each end of the soft plastic headband, which is nearly 3-in. wide. The cups are cushioned by removable liquid-filled pads.