

# New Equipment Reports

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Laboratory data (unless otherwise noted) supplied by Diversified Science Laboratories.

## B&O Updates Its Classic Turntable

**B&O Beogram 8000 automatic single-play turntable, with base, dust cover, lateral-tracking tonearm, and fixed-coil phono pickup. Dimensions: 19¼ by 14 inches (top), 3 inches high with cover closed; additional 13¼ inches vertical clearance required with cover open. Price: \$995. Warranty: "limited," one year parts and labor. Manufacturer: Bang & Olufsen, Denmark; U.S. distributor: Bang & Olufsen of America, Inc., 515 Busse Rd., Elk Grove Village, Ill. 60007.**

**SPEED ACCURACY** (at 33 or 45 rpm)  
no measurable error, 105–127 VAC

**SPEED ADJUSTMENT RANGE**  
at 33 +3.2% to -2.9%  
at 45 +3.3% to -3.1%

**WOW & FLUTTER** (ANSI/IEEE weighted peak)  
±0.04% average; ±0.06% max.

**TOTAL AUDIBLE RUMBLE** (ARLL) -66 dB

**TONEARM RESONANCE AND DAMPING**  
vertical 10.5 Hz; 7½ dB rise  
lateral 10.5 Hz; 6½ dB rise

**STYLUS-GAUGE ACCURACY**  
set for 0.5 gram 0.3 gram  
set for 1.0 gram 0.85 gram  
set for 1.5 grams 1.4 grams  
set for 2.0 grams 1.9 grams

**TOTAL LEAD CAPACITANCE** 250 pF

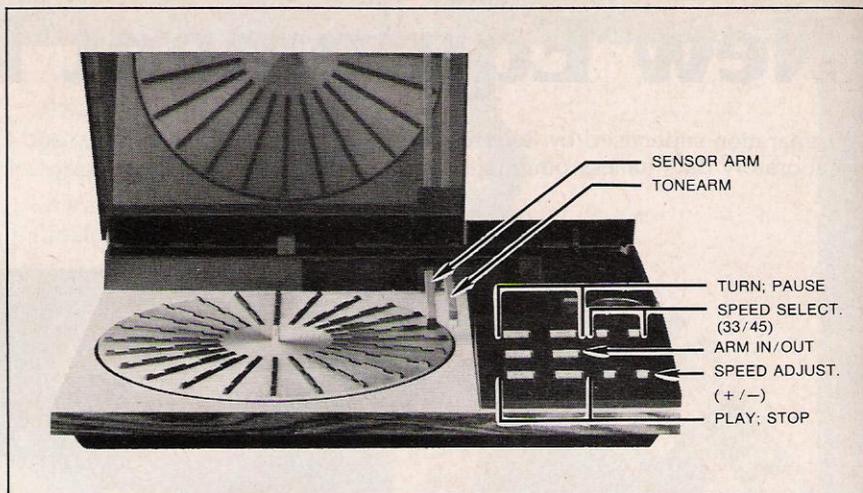


HUMAN ENGINEERING is as much a trademark of B&O products as are their sleek, contemporary good looks. Designed to interact with the user in a clear, straightforward manner, B&O gear is virtually goof proof, a fact that we noted with much pleasure in our test report on the Beocord 8000 cassette deck (November, 1980). B&O's Beogram 8000 turntable, a part of the same series, embodies the straight-line tracking principle of the earlier Beogram 4002 (test report, January 1975) but adopts a totally new platter-drive system and employs microprocessor-based controls that make it even simpler and more flexible to use.

Actually, discussing the Beogram by itself does it some injustice; when it is mated to the companion Beomaster 8000 receiver, all its functions can be manipulated via the Beosystem 8000's wireless remote-control terminal. And while the turntable's styling is elegant enough to complement just about any audio setup and decor, the entire 8000 series forms a sweeping horizontal display with easily accessible top-mounted control panels that give further evidence of human engineering.

The new turntable employs two arms, as did the 4002. One carries the factory-supplied MMC-20CL fixed-coil phono pickup (April 1979), whose virtues include a line-contact diamond tip and a sapphire cantilever; the other, slightly longer arm holds a light source and sensor that relays information on record size back to the turntable's microprocessor that controls arm setdown. If the sensor arm, mounted ahead of the tonearm, detects a 12-inch record on the platter, the speed will automatically be set at 33 rpm; for a 7-inch disc, 45 rpm is chosen. For those rare 12-inch 45s, speed can be selected manually via the top-mounted controls. If the sensor arm "sees" the raised black fins on the platter, the arms shuttle across and return to rest without setting down the stylus. A small, soft brush mounted directly to the left of the arm's resting place (under the flipup aluminum top plate) cleans the stylus before and after each play cycle.

The stylus' motion in the groove is constantly monitored by another optical sensing system (this one mounted in the tonearm), and the arm motor automatically corrects any deviation from tan-



gency during play. Like other electronically controlled tonearms, B&O's version is a joy to use. A tap on one of the arm movement controls during the play cycle causes the tonearm to lift gracefully from the disc (muting all output in the process) and to shuttle where you direct it; slow and fast movement are also at your command via a light or more forceful touch, respectively, on the controls. A tap on **PLAY**, and the arm settles down in the groove, restoring audio output a fraction of a second later. **TURN** accomplishes just that: The platter rotates for record cleaning without calling forth the tonearm. The Beogram's microprocessor also controls other tonearm functions. Touching **PLAY** more than once results in one replay; a tiny LED on the sensor arm flashes to signal the repeat mode. And a tap on **PAUSE** will cause the arm to lift off the record, where it will wait ten seconds for you to cue it down again. If you decide not to, the arm returns to rest, but the exact liftoff position is retained in memory for thirty minutes; another tap on **PLAY** within that time brings the tonearm back to its original position, lowers it to the record, and play is resumed.

The Beogram features a radically different drive system. Instead of belt drive, coils fixed beneath the platter rim induce eddy currents in a drive rim to move the platter. Still another optical sensing system, this one under the platter, generates pulses proportional to the turntable speed, which are fed to a quartz crystal comparator. If there is a speed discrepancy, the microprocessor activates a correcting signal; a pair of buttons that step the speed up or down in 0.05-rpm increments allow deliberate alterations in speed.

Integrated design—which insures correct arm-mass/pickup-compliance relationships—is not calculated to please audiophiles with multiple pickups, but it does guarantee the more likely Beogram

purchaser a combination that functions well. Indeed, in tests at Diversified Science Laboratories, both the vertical and horizontal resonances fell squarely in the “ideal” region: in the slot between the infrasonic warp-frequency area and the bottom of the audio range. Speed accuracy is perfect at all line voltages on the DSL test bench, and the measurements for wow, flutter, and rumble have seldom been surpassed.

A small discrepancy did show up in our measurement of the total lead capacitance; at 250 picofarads, it's about 30 picofarads greater than B&O's own spec standard for the MMC-20CL pickup. But when we attached the Beogram to our reference preamp, which allows variable capacitive loading, the subjective response of the pickup varied very little even with extremely high capacitance. Setting up the turntable is a breeze. It took us slightly less than five minutes total and involved nothing more than loosening and then retightening three transport screws, mounting the platter, and setting VTF at a small slider mounted directly on the arm. You don't even need to balance the arm.

In listening over several weeks, we could not have been more pleased with the performance of the Beogram. The platter and its drive coils, as well as the tonearm assembly, are suspended together from the base on leaf springs. We pounded on the mounting surface and turned a speaker so that it fired directly at the turntable but could hear no hint of feedback. Very few turntables we know combine such engineering excellence and ease of use—a hallmark of B&O products. The 8000 is admittedly expensive—it costs as much as those armless audiophile turntables that demand persnickety care in setup and arm mounting—but the purchaser of the Beogram acquires audiophile performance without headaches. Bravo B&O!

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