Manufacturer's Specifications
Power Output: 50 watts per channel, 20 Hz to 20 kHz, both channels driven into 8-ohm loads.
Rated THD: 0.05%.
Rated IHF IM: 0.05%.
Frequency Response: Phono, RIAA/EC, 20 Hz to 20 kHz, ±0.5 dB. High level: 20 Hz to 20 kHz, ±0.5 dB; 2 Hz to 65 kHz, ±0.3 dB; 1 Hz to 80 kHz, ±0.3 dB.
Channel Balance: Within 1.0 dB.
Input Sensitivity: MM phono, 20 mV; MC phono, 110 µV; high level, 100 mV.
Phono Overload: MM, 175 mV; MC, 10 mV.
S/N: MM phono, 76 dB; MC phono, 74 dB; high level, 78 dB.
Channel Separation: 60 dB at 1 kHz for any input.
Polarity: Noninverting for all inputs and outputs.
Tone-Control Range: Bass, ±6 dB at 20 Hz; treble, ±6 dB at 20 kHz.
Power Requirements: 120 V, 50/60 Hz; maximum power, 250 VA.
Dimensions: 17 1/2 in. W x 2 13/16 in. H x 13 3/8 in. D (44.5 cm x 7.4 cm x 34 cm).
Weight: 16 1/4 lbs. (7.6 kg).
Price: $695
Company Address: c/o Artech Electronics, P.O. Box 1165, Champlain, N.Y. 12919.
For literature, circle No. 91

Here's a neat little "sleeper" of an integrated amplifier which would go well with any of the higher efficiency speaker systems that have been introduced since the era of digital audio began in earnest. No bigger than most preamplifiers, the Audiolab 8000A delivers extremely clean sound at power levels well beyond its conservative specifications. Manufactured in the United Kingdom and distributed by Artech Electronics of Canada, the amplifier has a beautifully styled front panel with easy-to-grip rotary controls and positive-acting pushbutton switches.

This unit's similarity to a preamplifier goes beyond its appearance. As supplied, the "Power Amp In" terminals are internally connected to the "Pre-Amp Out" jacks. However, with a simple internal modification, the preamp and power amp sections can be used independently, for biamped systems or for driving active loudspeakers, for example. Those "Pre-Amp Out" jacks are driven by an amplifier with low-impedance output so that they can be used to drive other power amps or active speakers, even via long cables, without signal degradation or high-frequency attenuation.

Like many more elaborate (and more expensive) integrated amplifiers, the 8000A provides independent signal source selection for its main and tape outputs. Thus, you can listen to one program source while recording another. Two full tape monitor loops are provided, and dubbing is possible in either direction between two tape decks.

I was impressed by this amplifier's speaker-switching arrangement; clearly, its designers considered real-world
Clearly, the designers of this amplifier considered real-world situations and didn’t add extra switches for their own sake. Though there are two independent sets of speaker terminals at the rear of the amplifier, there is only a single pushbuttons speaker switch on the front panel. This switch activates speakers connected to the terminals labelled “Switched Speakers.” It’s a logical setup; in most practical applications, the main speakers would be on all the time and therefore would require no front-panel switch. Just as logically, should you wish to listen to headphones, insertion of a headphone plug deactivates both sets of speakers, regardless of the setting of that front-panel pushbutton.

I was not supplied with a schematic wiring diagram, but I did remove the 8000A’s cover. This revealed a massive power transformer, more than adequate filter capacitance, and a generally neat and well thought-out component layout with sufficient heat-sink area for the output devices.

**Control Layout**

The power on/off pushbutton is located (surprise!) at the right end of the slim front panel. (Most of us are right-handed, after all. So why do manufacturers make us reach across the front panel to turn our equipment on?) The next control, working right to left, is the “Speakers” on/off pushbutton, and just beyond it is the master volume control. The smaller balance control comes next, followed by calibrated treble and bass controls. Between them is a “Tone” pushbutton, used for defeating the tone-control circuits. At the left end of the panel are two identical rotary knobs. One selects the input you want to listen to, and the other chooses the signal to be sent to the record-out jacks. If the “Record” control is set to “Tape 2,” you can dub from the deck connected to the “Tape 2” loop to the deck connected to the “Tape 1” loop. Conversely, if you set the “Record” switch to “Tape 1,” you can dub from “Tape 2” to “Tape 1.”

The “Input” and “Record” selectors are positioned side by side and share one set of nomenclature, printed between them. It took me a while to get used to this arrangement.

Below the “Input” selector are two tiny LED indicators, one labelled “MM,” the other “MC.” Since the switch selects the phono preamp mode (MM or MC) is on the rear panel, these lights let the user know which cartridge input circuit is active. And since one of these two lights will always be illuminated when power is applied to the amplifier, there is no need for an additional power-on indicator. In audio circles, this might be called a “minimalist” approach. In audio circles, I call it common-sense design.

A power cord is supplied separately, so the amp need not be reconfigured physically for different countries and different voltages. The line fuse, together with a spare, is in a small drawer, on the rear of the amp, that can only be opened once the cord is unplugged. Color-coded speaker terminals are positioned at the left side of the rear panel, near the power-cord receptacle. “Power Amp In,” “Pre-Amp Out” jacks come next, followed by the eight “In” and “Out” jacks associated with the two tape monitor loops. Next come the high-level input pairs, labelled “CD” and “Tuner.” Farther to the right are four jacks associated with the MM phono inputs. Why four? Because two can be used to alter the existing load impedance presented to the phono cartridge if the 47-kilo ohm resistance and 85-pF capacitance built into the unit are not precisely the values required by your cartridge. To alter those “default” values, you can easily wire up a pair of phono plugs with the right resistance and capacitance in parallel, or you can order the proper load from your dealer. The other pair of MM phono jacks are, of course, for the cartridge itself. At the extreme right of the panel are a pair of MC phono inputs and a switch that selects MM or MC operation. Independent jacks are provided for either type of cartridge. Therefore, if you own both types, mounted in two different tonearms or on two turntables, you can connect one of each and choose between them without having to unplug and plug cartridge cables again and again. A ground terminal in the vicinity of these phono jacks completes the rear-panel layout.

**Measurements**

Evaluating the Audiolab 8000A on the lab bench provided my first opportunity to use Audio Precision’s System One computerized test equipment for measuring an amplifier’s performance. Figure 1 is a plot of THD + N versus power output per channel, with both channels driving 8-ohm resis-

![Fig. 1—THD + N vs. power into 8 ohms.](image1)

![Fig. 2—THD + N vs. frequency at rated output (50 watts) into 8 ohms.](image2)
For a 1-kHz signal at rated power, distortion was just 0.005%, a whole order of magnitude lower than the manufacturer's spec.

Fig. 3—THD + N vs. power into 4 ohms.

Fig. 4—THD + N vs. frequency at 80 watts into 4 ohms.

Fig. 5—Tone-control characteristics.
You can probably buy a lot more power for the price of the 8000A, but you’re not likely to buy better sound or obtain a better layout.

Although Audiolab measures signal-to-noise the same way I do (using the IHF/EIA Standard), for some reason they quote input sensitivity based on rated output rather than on 1 watt output. Consequently, my measured input sensitivities do not correlate with the published values. If you want to compare my results with the published specifications, simply multiply my numbers by 7.07 (the input voltage ratio needed to get from 1 watt to 50 watts). Sensitivity for the CD input was 28 mV; other high-level inputs required only 14 mV for 1 watt output. Sensitivity for the MM phono inputs was 0.32 mV, and the MC phono inputs required a signal level of 18.4 μV to produce 1 watt into 8-ohm loads with the volume turned fully up.

Signal-to-noise ratio for the high-level inputs, referred to 1 watt output and with a 0.5-V input, measured slightly more than 96 dB. Residual noise, with the volume control set at minimum, was 100.3 dB. S/N via the MM phono inputs, referred to 1 watt output and with a 5-mV signal applied, was exactly 80 dB; via the MC inputs (using a 0.5-mV input signal to produce 1 watt output), S/N was 75.4 dB at the left-channel output and 77.0 dB at the right. All of these results are significantly better than Audiolab’s specifications.

Use and Listening Tests

The simple elegance and clean design of this medium-powered amplifier was matched by its sound quality. The term “transparency” has perhaps been overused in describing how amplifiers reproduce audio signals, but I can’t think of a better term to use with regard to the Audiolab 8000A. To be sure, it wasn’t quite powerful enough to drive my KEF 105.2 reference speakers to the levels I like when I auditioned some of my more dynamically recorded CDs, but it came remarkably close. I normally drive these speakers with an amplifier rated at more than 200 watts per side; that should give you some idea of how much dynamic headroom this Audiolab amplifier actually has.

Tone-control action was just the way I like it, with midsettings of these controls producing very subtle changes, rather than crude overall alterations of tonal balance.

Phono inputs were as noise-free as the bench measurements suggested. So for a change, I actually dug out some old LPs, cleaned them well, brushed off the stylus tip of a Shure V15 Type V-MR cartridge, and sat back to listen to some of my favorite Beethoven and Brahms recordings. Interestingly, with those LPs playing, there was enough power to drive my reference speakers, after all. (I guess it’s true what they say about CD’s and dynamic range. Sometimes I wonder whether the peaks in CDs aren’t occasionally somewhat bigger than in real life.) But I digress. The fact is that the Audiolab 8000A could well serve as the central component in an audio system that employs reasonably efficient loudspeakers in a listening room of average dimensions. You can probably buy a lot more power for the price of this amplifier, but you are not likely to buy better sound quality or a more intelligently configured control layout—not for that sum or, in fact, for even more.

Leonard Feldman