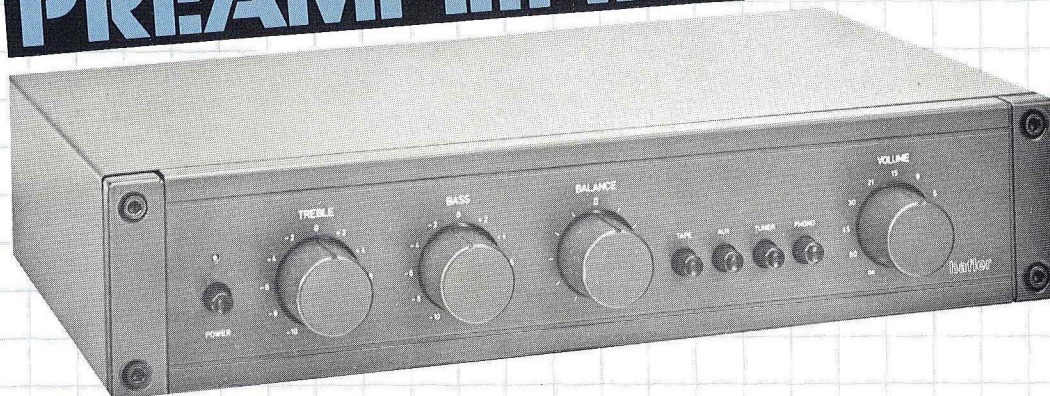


THE HAFLER 100 PREAMPLIFIER



MAXIMUM PERFORMANCE, MINIMUM COST, THE ULTIMATE IN VALUE A PRODUCT OF AMERICAN INGENUITY

The preamplifier functions as the control center of your component music system. It is the interface between the audio sources (records, tape, FM tuner, or even video or computer sound) and the basic power amplifier. It provides appropriate switching, and adjustment of the volume, balance and tonal correction, as well as the additional amplification and frequency compensation required for magnetic phono cartridges. Given the wide choice of preamplifier designs, a price range of ten times or more, some laden with features, and others burdened with notable complexity, there is a natural tendency for you to expect that the highest performance will necessarily be achieved with the most costly designs. This need not be true. The David Hafler Company has a tradition of maintaining a very high level of quality while achieving substantial cost reductions in our products. In the DH-100 we have state of the art performance in a handsome unit which is very modest in cost.

Our philosophy has always been to produce maximum performance at minimum cost, offering exceptional *value* in every one of our designs. The ability to achieve this is based on our expectation that the merits of each product will be so well recognized that demand will enable us to produce it in substantial volume, with the attendant economies in purchasing and manufacturing. Some of the design features which contribute to this high *value* factor are:

- Elimination of frills, such as unnecessary inputs, loudness controls, and the like, while we provide all the important features.
- Careful component selection and painstaking distillation of each circuit to its essentials delivers unsurpassed performance.
- We develop a physical arrangement which enables reliable, reproducible performance with easy low cost assembly techniques.
- We expend a large amount of engineering time to make our designs conform to close standards, without the need for time-consuming adjustments.
- A further benefit of these factors is that our designs can be supplied as kits with ease of assembly and assurance of success for the builder, with additional savings.

While the DH-100 exemplifies the 'no-frills' path to ultimate economy, it is replete with subtle features which are not apparent at first, but which make a significant contribution to its superior performance:

- Low impedance power supply maintains that characteristic out to the highest audio frequencies.
- A delay circuit provides muting to eliminate surges and 'pops' at turn-on.
- Unused inputs are isolated to prevent feedthrough and consequent distortion from unselected sources.
- Precision RIAA phono equalization and a balanced tone control circuit assure flat response.
- Sufficient line output enables the use of high impedance headphones for direct listening, as an alternate to the power amplifier connection.

A goal of the lowest possible distortion is axiomatic. The conventional harmonic and intermodulation distortions of the DH-100 are almost unmeasurable. But further, we determined to make some of the more obscure forms of distortion equally inoffensive. Outside of the conventional audio band it is possible for signals to intermodulate, producing distortion products inside the listening range. This ultrasonic intermodulation is an insidious form of distortion that is not shown in conventional specifications. Some engineers try to reduce it by rolling off the response of the unit so that out-of-band signals are not being reproduced. Our method is to make a very wide band design which can handle high frequency signals cleanly, so that they will not create intermodulation or transient distortion which might be audible.

We have paid special attention to maintaining stereo separation out to the highest frequencies so that phase information remains accurate between the two stereo channels. This provides a stable and sharply defined stereo image.

In selecting circuit components, we used special listening tests based on amplified bridge comparisons, so that we could identify those items which adversely affected sonic quality. This led to the exclusive use of polypropylene and polycarbonate capacitors in the signal path, because their superior quality justified the higher cost. Like the circuit design, the parts which comprise it were selected for the most accurate sound quality attainable.

The specifications of the assembled DH-100, listed below, are an accurate, but nonetheless inadequate measure of the performance you can expect. They can serve as a rudimentary statistical comparison with preamplifiers of appreciably higher cost, and demonstrate the clear value of the DH-100. When you add to that its availability as a remarkably easy to build kit at even greater savings, and then make a listening comparison using truly fine program material, the DH-100 is really in a class by itself.

A word of encouragement to the first time kit builder. The Hafler name has been synonymous with first-rate audio kits for 30 years—units which consistently met and exceeded the specifications of their factory built counterparts.

SPECIFICATIONS

Operating characteristics are specified with a load of 27K ohms in parallel with 1.5 nanofarads, which represents a typical amplifier. Performance ratings are stated for the band between 20 Hz and 20 kHz, unless otherwise identified.

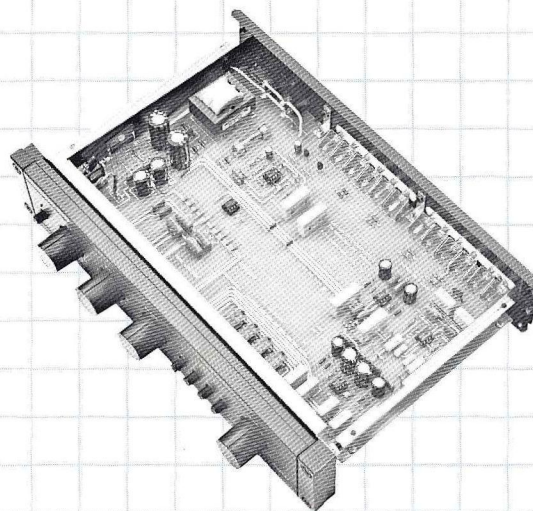
PHONO PREAMPLIFIER SECTION

Rated Output: 3 Vrms
Maximum Output: 8 Vrms
Harmonic Distortion: less than 0.005%
RIAA Frequency Response:
± 0.25 dB, 20 Hz to 20 kHz
± 0.1 dB, 40 Hz to 20 kHz
Sensitivity: 12 mV
Maximum Input: 180 mV @ 1 kHz
Input Impedance: 47.5K ohms in parallel with 130 pF
Output Impedance: 150 ohms in series with 2.2 mfd
Signal to Noise Ratio: greater than 100 dB, 'A' weighted

LINE AMPLIFIER SECTION

Rated Output: 3 Vrms
Maximum Output: 8 Vrms
Harmonic Distortion: less than 0.005%
Frequency Response: ±0.25 dB, 20 Hz to 20 kHz
Gain: 20 dB
Input Impedance: greater than 35K ohms
Output Impedance: 150 ohms in series with 2.2 mfd
Signal to Noise Ratio: greater than 100 dB, 'A' weighted
Crosstalk: down 80 dB
Separation:
greater than 62 dB @ 1 kHz; 45 dB @ 10 kHz
Maximum Output Noise: 650 microvolts, 'A' weighted
Bass Control: ± 12 dB @ 20 Hz, moving inflection type
Treble Control: ± 15 dB @ 20 kHz, shelving type

Foremost in their planning has been the determination that what is built in the home will be identical in sound to the already assembled version, without the need for any special tools or knowledge. An ability to follow step by step instructions, and to use a soldering pencil and a few basic tools, is all that you need. The DH-100 is the easiest Hafler kit yet. You can complete it in one evening. Most of the components are already soldered in place on the single glass epoxy circuit board, saving you much of the work. This premium quality board has already been tested to assure specified performance, before it was packed in your kit. Less than 50 steps separate you from the finished product—*your* preamplifier in more than just ownership. You will have built it, and saved more than \$1 a step, and you will have had a lot of fun, too.



GENERAL SPECIFICATIONS:

Semiconductors: 6 integrated circuits, 5 diodes, 1 LED
Inputs: Phono, Tuner, Auxiliary, Tape
Outputs: Tape record, Line
Controls: Volume, Balance, Treble, Bass, push button Input select, Tape Monitor, Power
Intermodulation Distortion: Both SMPTE and CCIF IMD at operating levels from Phono input to Line output are below the residual of currently available instrumentation
AC Supply Voltage: 95-130 VAC, 50/60 Hz, or 190-260 VAC, 50/60 Hz
Power Consumption: less than 5 watts
AC Convenience Outlets: 2 switched
Size: 13½" wide × 3" high × 10" deep overall
Shipping Weight: 9 lbs.
Net Weight: 7 lbs.

THE **david hafler** COMPANY

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