



Fig. 5—The high-cut filter response of the Onkyo A-7.

took is designing that power supply to have such low internal impedance and to provide such great power reserve at the bass end. In any event, the A-7 sounded very good to our ears when coupled to a rather low-efficiency pair of sealed-enclosure speaker systems which have previously required upwards of 100 watts per channel to deliver the kind of clean, powerful sound we normally seek. Obviously, continuous power ratings do not tell the whole story, FTC power rule notwithstanding.

If a few of the frills normally found on some separate preamp/control units are missing from the A-7 (notable separate tone control of each channel, sensitivity selection of phono inputs, or cartridge impedance matching selection), these omissions are more than justified in an integrated amplifier that sells for as low a price as this one. Onkyo has, in our opinion, put together an integrated amp that offers excellent value for its price, both in terms of front panel functions and in terms of reproduced sound capability.

Leonard Feldman

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76



Burwen Research Model DNF-1201A Dynamic Noise Filter

MANUFACTURER'S SPECIFICATIONS
"Hiss" Reduction: Up to 30 dB above 5 kHz, 5 to 14 dB total above 400 Hz, depending upon program material and control settings.
Frequency Response: Minimum bandwidth, -3 dB @ 500 Hz, -10 dB @ 1 kHz, -20 dB @ 2.5 kHz; Maximum Bandwidth, ±0.5 dB, 10 Hz to 20 kHz.
Input Level: 0.77 V (0 VU), adjustable to 10 dB lower level.

Maximum Input: 6 V @ 0.1 dB gain.
Rated Output: 2.5 V (+10 dB).
Clipping Level: 6 V.
Output Impedance: 50 ohms, d.c. coupled.
Gain at 1 kHz: 0 dB adjustable to +10 dB.
THD (Sensitivity at Maximum): 0.2 per cent at any frequency from 20 Hz to 10 kHz.

IM Distortion: 0.05 per cent.
Internal Noise: 100 μV rms. 20 Hz to 20 kHz.
General Specifications
Dimensions: 17½ in. (44.5 cm) W x 2⅞ in. (7.3 cm) H x 8¼ in. (21 cm) D.
Weight: 8 lbs. (3.6 kg).
Power Requirements: 105-125 V, 50/60 Hz, 8 W (210-250 V model optionally available).
Price: \$379.00.

The Burwen Research DNF-1201A is a much improved and totally restyled and re-engineered version of Dick Burwen's earlier Model 1201 which we had an opportunity to examine some years ago. The Burwen operation is now headquartered at the same location as KLH, in Cambridge, Mass., both companies being part of EAD Industries. Evidently, with Mr. Burwen now able to devote all his efforts to engineering (instead of trying to run his small, independent company and worry about new products all at the same time), he has come up with a truly effective dynamic noise filter.

A dynamic noise filter, unlike the more familiar "high cut" passive filters found on most preamplifiers, amplifiers, and even receivers, may be thought of as a filter whose cut-off points and degree of attenuation are constantly changing, depending upon the musical content of the program source. In other words, if a moment of music comes along which contains no high frequencies, the filter cuts down overall system

response (it is usually inserted in the signal path via the tape out/tape in jacks available on most amplifiers and receivers), and high frequency "hiss" or noise is sharply diminished. At the instant when a high frequency musical signal comes along, the filter "opens up" and lets the music come through unattenuated. Sounds simple, but execution of an unobtrusive dynamic filter is not that easy. As for what happens to hiss when the filters are wide open and highs are contained in the music, a well known characteristic of human hearing known as the "masking effect" takes care of that very nicely. During such time periods, the high frequency musical content tends to mask the lower intensity high-frequency noise so that even though it is very much there, our ears simply do not respond to it.

The front panel of the 1201A is gold anodized and has a low-profile design. The power On/Off pushbutton is located at the lower left. Four interlocking pushbuttons determine the