SPECIFICATIONS

PAT-5 BI-FET™ Preamplifier

Frequency Response: High Level Inputs: ±1 dB, 10 Hz to 50 kHz;
Low Level Inputs: ±0.5 dB of RIAA curve.

Distortion at 2 Volts Output into 10,000 ohms in parallel with 1000 pf:
THD 0.007% or less, 20 Hz to 20 kHz;
IM 0.007% or less, with any combination of frequencies.

Hum and Noise: Magnetic Phono: 70 dB below a 10 mv input @ 1 kHz;
High Level: 90 dB below a 0.5 volt input.

Gain:

Magnetic Phono (LO) to Audio Out:	57 dB @ 1 kHz;
Magnetic Phono (HI) to Audio Out:	63 dB @ 1 kHz;
Magnetic Phono (LO) to Tape Out/E.P.L. Out:	37 dB @ 1 kHz;
Magnetic Phono (HI) to Tape Out/E.P.L. Out:	43 dB @ 1 kHz;
High Level to Audio Out:	20 dB;
High Level to Tape Out/E.P.L. Out:	Unity.

Phono Input Acceptance: LO: Greater than 115 millivolts @ 1 kHz;
HI: 45 millivolts @ 1 kHz.

Tone Controls: Bass: Greater than ±10 dB @ 50 Hz;
Treble: Greater than ±10 dB @ 15 kHz.

Filters: Low: -4 dB @ 10 Hz, 6 dB per octave (conforms to newly revised RIAA phono playback curve);
High: -10 dB @ 10 kHz, 15 dB per octave.

Voltage Output: 7 volts minimum into 10,000 ohms or greater;
4.5 volts minimum into 1000 ohms.

Impedances:

Magnetic Phono:	47 k ohms in parallel with 220 pf;
High Level:	50 k ohms;
Tape Output:	From phono inputs, 15 k ohms or greater may be connected. From high level inputs, same as source;
Audio Output:	Less than 600 ohms.

Separation @ 2 Volts Output into 10 k Ohms; Undriven Input Terminated in 5k:
20 Hz: 70 dB minimum;
2 kHz: 70 dB minimum;
20 kHz: 45 dB minimum.

Semiconductor Complement: 13 transistors, 2 integrated circuits, 3 zener diodes, 4 diodes.
Power Consumption: 12 watts, 120 v or 240 v, 50/60 Hz AC.
Dimensions: 13½" wide, 4¼" high, 11¾" deep.
Shipping Weight: 13 lbs/5.9 kilos.

Stereo 416 Power Amplifier

Power Output Ratings: Less than 0.25% total harmonic distortion at any power level up to 200* watts continuous average power per channel into 8 ohms (300* watts per channel into 4 ohms; 100* watts per channel into 16 ohms) at any frequency between 20 Hz and 20 kHz with both channels driven. Distortion reduces at lower power levels.

Power at Clipping, Single Channel, 2500 Hz, less than 1% distortion:
235 watts @ 8 ohms;
350 watts @ 4 ohms;
450 watts @ 2 ohms;
135 watts @ 16 ohms.

Intermodulation Distortion: Less than 0.1% at any power level up to 200 watts rms per channel into 8 ohms with any combination of test frequencies. Distortion reduces at lower power levels.

Half-Power Bandwidth: 100 watts per channel at less than 0.25% total harmonic distortion from 5 Hz to 35 kHz into 8 ohms.

Frequency Response: +0, -1 dB, 8 Hz to 50 kHz @ 1 watt into 8 ohms.
±0.5 dB, 20 Hz to 20 kHz @ 200 watts.

Hum and Noise: Greater than 95 dB below rated output, full spectrum;
Greater than 100 dB below rated output, 20 Hz—20 kHz.

Input: Normal: 50,000 ohm load; Control By-Pass: 20,000 ohm load; 1.6 volts for 200 watts @ 8 ohms.

Slewing Rate: 8 volts per microsecond.

Damping Factor: Greater than 80 to 1 kHz into 8 ohms;
Greater than 30 to 10 kHz into 8 ohms.

Channel Separation: Greater than 60 dB by IHF standards.

Semiconductor Complement: 70 transistors, 51 diodes, 16 light emitting diodes, 2 silicon controlled rectifiers, 8 integrated circuits.

Power Consumption: 120 v.a. quiescent; 17 amps maximum; 50/60 Hz, 120 vAC.

Dimensions: 19" wide, 7" high, 14" deep.

Shipping Weight: 59 lbs/27 kilos.

*Measured in accordance with the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.

BI-FET is a trade mark of National Semiconductor.

NOTE: Specifications and design subject to possible modification without notice.

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