



ELECTRONICS, INC.  
 44 FARRAND STREET  
 BLOOMFIELD, NJ 07003  
 (973) 748-5089  
<http://www.nteinc.com>

## NTE1660 Integrated Circuit Audio Preamplifier

**Features:**

- High Open-Loop Voltage Gain: 80dB Typ
- High Input Impedance: 200kΩ Typ
- Low Noise: 0.9μV Typ ( $R_g = 2.4k\Omega$ , converted into input voltage)

**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$ )

Supply Voltage,  $V_{CC}$  ..... 15V  
 Power Dissipation,  $P_T$  ..... 200mW  
 Operating Temperature Range,  $T_{opr}$  .....  $-30^\circ$  to  $+80^\circ\text{C}$   
 Storage Temperature Range,  $T_{stg}$  .....  $-55^\circ$  to  $+125^\circ\text{C}$

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ ,  $V_{CC} = 9\text{V}$ ,  $f = 1\text{kHz}$ ,  $R_L = 5.1k\Omega$  unless otherwise specified)

| Parameter                          | Symbol      | Test Conditions                       | Min | Typ  | Max | Unit |
|------------------------------------|-------------|---------------------------------------|-----|------|-----|------|
| Quiescent Current                  | $I_Q$       |                                       | 0.8 | 1.3  | 1.7 | mA   |
| Open-Loop Voltage Gain             | $G_{V(OL)}$ | $V_{out} = -10\text{dBm}$             | 75  | 80   | -   | dB   |
| Voltage Gain                       | $G_V$       |                                       | -   | 53.5 | -   | dB   |
| Output Voltage                     | $V_{out}$   | THD = 1%                              | 0.7 | -    | -   | V    |
| Total Harmonic Distortion          | THD         | $V_{out} = 0.3\%$ , $f = 1\text{kHz}$ | -   | 0.25 | -   | %    |
| Input Impedance                    | $Z_{in}$    | $f = 1\text{kHz}$                     | 70  | -    | -   | kΩ   |
| Noise Voltage Converted into Input | $V_n$       | $R_g = 2.4k\Omega$ , Note 1           | -   | 0.9  | 2.2 | μV   |

Note 1. Value converted into output noise voltage is 43mV Typ and 106mV Max.

**Pin Connection Diagram**  
(Front View)

