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## 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)

