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## NTE826 Integrated Circuit TV Sound System, 2W

**Description:**

The NTE826 2W sound IF circuit is designed for television and related applications. The circuit is comprised of 2 independent functions: a sound IF and an audio power amplifier. The sound IF portion of the circuit utilizes circuitry similar to the NTE712. An improved volume control circuit is included, however, so that recovered audio is a linear function of the resistance of the control potentiometer. Audio power amplification is accomplished with circuitry similar to the popular NTE740A audio power amplifier, featuring both short circuit and thermal protection.

**Features:**

- Minimum Undistorted Output: 2W
- Linear Volume Control: 75dB range
- Fixed Voltage Gain in Audio Amplifier
- Short Circuit and Thermal Protection

**Absolute Maximum Ratings:**

Supply Voltage (Pin2),  $V_{CC}$  ..... 26V  
 Input Current (Pin6),  $I_{MAX}$  ..... 50mA  
 Input Signal Voltage (Between Pin12 and Pin13) .....  $3V_{p-p}$   
 Operating Temperature Range,  $T_{opr}$  ..... 0° to +70°C  
 Storage Temperature Range,  $T_{stg}$  ..... -65° to +150°C  
 Maximum Junction Temperature,  $T_J$  ..... +150°C  
 Lead Temperature (During Soldering, 10sec),  $T_L$  ..... +300°C

**Electrical Characteristics:**

Parameter	Test Conditions	Min	Typ	Max	Unit
Power Output	$V_{CC} = 24V, R_L = 16\Omega, THD = 10\%$	-	1.3	-	W
	$V_{CC} = 16V, R_L = 8\Omega, THD = 10\%$	-	2.6	-	W
	$V_{CC} = 14V, R_L = 8\Omega, THD = 10\%$	-	1.9	-	W
	$V_{CC} = 12V, R_L = 8\Omega, THD = 10\%$	-	1.3	-	W

### Electrical Characteristics (Cont'd):

Parameter	Test Conditions	Min	Typ	Max	Unit
Zero Regulating Voltage (Pin6)		10.5	11.5	12.5	V
Feedthrough Signal (Pin1)	Resistance at Pin7 = 0Ω	–	–	15	mV <sub>rms</sub>
Current into Pin6	Voltage at Pin6 = 10V	7.0	10.8	15.0	mA
AM Rejection	V <sub>IN</sub> = 1 to 100mV <sub>rms</sub> , Δf = 25kHz, AM = 30%	40	–	–	dB
Recovered Audio (Pin8)		350	500	–	mV <sub>rms</sub>
Input Limiting Voltage (Pin16 to Pin1)		40	–	60	V/V
Output Noise, Input Signal Removed (Pin1)	Resistance at Pin7 = 10Ω	–	70	150	mV <sub>rms</sub>
Distortion (Pin8)	Δf = 25kHz, f <sub>o</sub> = 4.5MHz	–	1.2	2.0	%
Input Impedance (Pin16)		50	200	–	kΩ
Current into Pin2 (Zero Audio Output at Pin1)	V <sub>2</sub> = 24V	2	5	20	mA

### Pin Connection Diagram

