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## NTE1248 Integrated Circuit Phase Lock Loop (PLL) FM Multiplex Stereo Demod

**Description:**

The NTE1248 is a phase lock loop (PLL) system monolithic integrated circuit in a 16-Lead DIP type package designed as an FM multiplex stereo demodulator.

**Features:**

- A PLL for High Multiplex-Efficiency Operation.
- Stable Operation at Low Voltages ( $V_{CC} = 5.4V$  Min)
- Low Lamp Lighting Level (6.5mV typ)
- Separation Control Pin (Pin8)
- Ability to Stop the VCO for Monaural Muting (Pin9)
- Output Voltage Available with Low Loss ( $G_V = -1dB$  typically)
- Typically 0.3% Distortion
- SCA Rejection Ratio (80dB)

**Applications:**

- Stereo Radio Cassette Tape Recorders
- Car Stereos
- Home Stereos

**Absolute Maximum Ratings:** ( $T_A = +25^\circ C$  unless otherwise specified)

Supply Voltage, $V_{CC}$ .....	14V
Lamp Indicator Current, $I_{LAMP}$ .....	75mA
Power Dissipation, $P_d$ .....	550mW
Operating Temperature Range, $T_{opr}$ .....	$-25^\circ$ to $+75^\circ C$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ to $+125^\circ C$

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$ ,  $V_{CC} = 12\text{V}$ ,  $V_{IN} = 350\text{mV}$ ,  $L + R = 90\%$ ,  $Pilot = 10\%$ ,  $f = 1\text{kHz}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Voltage	$V_{IN1}$	THD = 1%, L + R = 90%, P = 10%	350	–	–	mV
	$V_{IN2}$	THD = 1%	350	–	–	mV
Input Impedance	$Z_{in}$		–	30	–	k $\Omega$
Channel Separation	Sep		35	40	–	dB
Output Voltage	$V_{OUT}$	$V_{IN} = 350\text{mV}$	–	310	–	–
Channel Balance	CB		–	–	2	dB
Total Harmonic Distortion	THD		–	0.3	–	%
Lamp Voltage	Lon	Pilot Level	–	6.5	–	mV
Hysteresis	Hys		–	3	–	dB
Capture Range	CR		–	$\pm 5$	–	%
Carrier Leak	CL	$f = 19\text{kHz}$	–	35	–	dB
		$f = 38\text{kHz}$	–	45	–	dB
SCA Rejection Ratio	SCA-R	L + R = 80%, P = 10%, SCA = 10%	–	80	–	dB
Threshold Voltage	$V_{TH}$		–	1	–	V
Supply Voltage	$V_{CC}$		5.4	–	14	V
Quiescent Current	$I_Q$		–	15	–	mA

**Pin Connection Diagram**



