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NTE721 Integrated Circuit Dual, Low Noise, Low Level Pre-Ampilfier

Description:

The NTE721 dual pre-amplifier is a linear monolithic circuit designed for use with low-level signals in low-noise applications. The device offers outstanding value, performance and reliability in both comnsumer and industrial products such as stereo tape players/recorders, dictating equipment, movie projectors, record players, microphone amplifiers and FM stereo receivers. An internal voltage regulator eliminates the need for audio r-f decoupling while providing a typical channel separation of 60dB. The guarenteed minimum gain of 65dB per channel is defined by internal resistors. External feedback is used only for NAB or RIAA equalization.

Features:

- Single Power Supply Operation
- High Input Impedance
- Wide Power Supply Range
- Matched Open Loop Voltage Gain
- Turn-On Delay

Absolute Maximum Ratings:

Supply Voltage, V_{CC} 24V
 Output Current (Pin 2) 10mA
 Storage Temperature Range, T_{stg} -65° to +125°C
 Operating Temperature Range, T_{opr} -30° to +85°C

Electrical Characteristics: ($T_A = +25^\circ C$, $+10V \leq V_{CC} \leq +24V$, unless otherwise specified)

Parameter	Test Conditions	Min	Typ	Max	Unit
Supply Current	$V_{CC} = +12V$	-	16	-	mA
Voltage Gain		65	68	71	dB
Gain Balance		-	0.3	2	dB
Channel Separation	$f = 1kHz$	-	90	-	dB
Input Resistance		-	250	-	k Ω
Output Resistance		-	100	-	Ω
Power Supply Rejection	$f = 1kHz$	45	55	-	dB
Total Harmonic Distortion	No feedback, $V_{OUT} = 300mV_{rms}$ into 3k Ω load	-	0.5	-	%
Input D-C Bias Current		-	0.8	3	mA
Impedance at Feedback. Terminal		-	30	-	k Ω

Electrical Characteristics (Cont'd): ($T_A = +25^\circ\text{C}$, $+10\text{V} \leq V_{CC} \leq +24\text{V}$, unless otherwise specified)

Parameter	Test Conditions	Min	Typ	Max	Unit
Amplifier Noise Figure	$f = 100\text{Hz to } 10\text{kHz}$, $R_S = 5\text{k}\Omega$	-	1.8	-	dB
Amplifier Noise Out	$f = 100\text{Hz to } 10\text{kHz}$, $R_S = 470\text{k}\Omega$	-	1.5	-	mV
Turn-On Delay Time	(Note 1)	2	3	4	Sec.

Note 1. This is the interval between the time supply voltage is applied to pin 1 and the time the device functions properly. Included to aid in avoiding poor audio quality as tape drive speed is attaining quiescent operating speed.

Pin Connection Diagram

