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NTE1579 Integrated Circuit Fm-IM Amplifier/Demodulator

Features:

- Wide Range of the Operating Supply Voltage
- Low Distortion: THD = 0.06% Typ.
- High Signal-to-Noise Ratio: S/N = 75dB Typ.
- High Input Sensitivity $V_{in(lim)} = 31dB\mu$ Typ.
- Capable of Driving the Signal Meter Under Low Input Signal
- High Stability Against Abnormal Oscillation

Functions:

- FM IF Amplifier
- Quadrature Detector
- Audio Post-Amplifier
- Muting Circuit
- AFC, Center Meter Driver
- Muting Control Driver
- Analog Control Driver

Absolute Maximum Ratings:

Supply Voltage, V_{CC} 16V
 Power Dissipation ($T_A = +60^\circ C$), P_T 624W
 Operating Temperature Range, T_{opt} -20° to $+70^\circ C$
 Storage Temperature Range, T_{stg} -55° to $+125^\circ C$

DC Electrical Characteristics: ($T_A = +25^\circ C$, $V_{CC} = 8V$, $V_{in} = 0dB\mu$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
DC Voltage at Pin 1	V_1		-	1.95	-	V
DC Voltage at Pin 2	V_2		-	1.95	-	V
DC Voltage at Pin 3	V_3		-	1.95	-	V
DC Voltage at Pin 6	V_6		-	5.60	-	V
DC Voltage at Pin 7	V_7		-	5.60	-	V
DC Voltage at Pin 10	V_{10}		-	5.60	-	V

AC Electrical Characteristics: ($T_A = +25^\circ\text{C}$, $V_{CC} = 8\text{V}$, $f_c = 10.7\text{MHz}$, $f_m = 1\text{kHz}$, $\Delta f = 75\text{kHz dev.}$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Operating Current	I_{CC}	$V_{in} = 100\text{dB}\mu$, Mute ON	-	32	39	mA
Limiting Sensitivity	$V_{in(lim)}$	at -3dB	-	31	37	$\text{dB}\mu$
Recovered Output	$V_{O(AF)}$	$V_{in} = 100\text{dB}\mu$	230	300	390	mV_{rms}
Total Harmonic Distortion	THD		-	0.06	0.3	%
Signal-to-Noise Ratio	S/N		67	75	-	dB
AM Rejection	AMR	$V_{in} = 100\text{dB}\mu$, $f_{m(AM)} = 1\text{kHz}$, 30% MOD	45	55	-	dB
Muting Attenuation	$Mute_{(ATT)}$	$V_{in} = 100\text{dB}\mu$, $V_5 = 2\text{V}$	68	75	-	dB
Muting Band Width	$BW_{(Mute)}$	Detuned Frequency under 1.4V of Pin = 12V, $V_{in} = 100\text{dB}\mu$	-	100	-	kHz
Muting Sensitivity	$V_{in(Mute)}$	V_{in} under 1.4V of Pin 12 Voltage	-	35	-	$\text{dB}\mu$
Analogue Control Voltage	V_{13-0}	Pin 13 voltage under $V_{in} = 0\text{dB}\mu$	-	0.2	-	V
	V_{13-60}	Pin 13 voltage under $V_{in} = 60\text{dB}\mu$	-	1.65	-	V
	V_{13-100}	Pin 13 voltage under $V_{in} = 100\text{dB}\mu$	-	4.7	-	V
AGC Control Voltage	V_{15}	Pin 13 voltage under $V_{in} = 86\text{dB}\mu$	-	3.7	-	V

Pin Connection Diagram



