

NTE1488 Integrated Circuit FM IF Amp, Demod ^w/Muting, Center Meter and Signal Meter

Features:

- Low Distortion
- High Signal-to-Noise Ratio
- High Limiting Sensitivity
- Large Muting Attenuation
- Provides Specific Signal for Direct Drive of a Signal Meter with Good Linearity
- Muting Level is Variable by Adjusting the External Resistor
- High Stability Against Abnormal Oscillation

Applications:

- FM IF Amplifier
- Quadrature Detector
- Audio Amplifier
- Muting Circuit
- AFC, Tuning Meter Driver
- AGC Control Voltage Generator
- Muting Control Voltage Generator
- Signal Meter Driver

Absolute Maximum Ratings:

Supply Voltage, V_{CC} 14V
 Power Dissipation ($T_A = +60^\circ\text{C}$), P_T 590mW
 Operating Temperature Range, T_{opr} -20° to $+60^\circ\text{C}$
 Storage Temperature Range, T_{stg} -55° to $+125^\circ\text{C}$

Electrical Characteristics: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static (DC) Characteristics ($V_{CC} = 13\text{V}$, No Signal)						
Pin1 Voltage	V_1		–	1.95	–	V
Pin2 Voltage	V_2		–	1.95	–	V
Pin3 Voltage	V_3		–	1.95	–	V
Pin6 Voltage	V_6		–	5.60	–	V
Pin7 Voltage	V_7		–	5.60	–	V
Pin10 Voltage	V_{10}		–	5.60	–	V

Electrical Characteristics (Cont'd): ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
AC Characteristics ($V_{CC} = 13\text{V}$, $f_c = 10.7\text{MHz}$, $f_m = 400\text{Hz}$, $\Delta f = 75\text{kHz}$)						
Supply Current	I_{CC}	$V_{in} = 0\text{dB}\mu$, Pin16 to GND Open	16	25	33	mA
Limiting Sensitivity	$V_{in(lim)}$	$V_{in} = 100\text{dB}\mu$ Input, Input Level = 3dB from $V_{O(AF)}$	–	31	37	$\text{dB}\mu$
Reversed AF Voltage	$V_{O(AF)}$	$V_{in} = 100\text{dB}\mu$	265	380	510	mV_{rms}
Total Harmonic Distortion	THD	$V_{in} = 100\text{dB}\mu$	–	0.03	0.10	%
Signal-to-Noise Ratio	S/N	$V_{in} = 100\text{dB}\mu$	78	84	–	dB
AM Rejection Ratio	AMR	$V_{in} = 100\text{dB}\mu$, AM: $f_{in} = 1\text{kHz}$, Mod. 30%	45	54	–	dB
Muting Attenuation	$Mute_{(Att)}$	$V_{in} = 100\text{dB}\mu$, Output standard with Pin5 Open, Attenuation with 2V impressed to Pin5	70	85	–	dB
Muting Bandwidth	BW (Mute)	$V_{in} = 100\text{dB}\mu$, Sum of + and Δf for $V_{12} = 1.4\text{V}$	55	105	145	kHz
Muting Sensitivity	V_{in} (Mute)	No muting level adjustment (Pin16 Open) input level for $V_{12} = 1.4\text{V}$	36	44	60	$\text{dB}\mu$
Muting Sensitivity Adjustment Range	AV_{in} (Mute)	Max. input level with possible muting level adjustment, Note 1	75	–	–	$\text{dB}\mu$
Meter Drive Voltage	V_{13-0}	$V_{in} = 0\text{dB}\mu$, Pin13 Voltage	–	0	–	V
	V_{13-70}	$V_{in} = 70\text{dB}\mu$, Pin13 Voltage	0.9	1.45	–	V
	V_{13-100}	$V_{in} = 100\text{dB}\mu$, Pin13 Voltage	4.7	5.2	–	V
AGC Control Voltage	V_{15}	$V_{in} = 80\text{dB}\mu$, Pin15 Voltage	–	4.3	–	V

Note 1. Muting level can be adjusted up to 75dB μ and should be set within this range.



