ELECTRONICS, INC.
44 FARRAND STREET
BLOOMFIELD, NJ 07003
(973) 748–5089

# 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
- Hig 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°C), $P_T$ . . . . . 590mW
Operating Temperature Range, $T_{opr}$ . . . . . –20° to +60°C
Storage Temperature Range, $T_{stg}$ . . . . . –55° to +125°C

**Electrical Characteristics:** ($T_A$ = +25°C unless otherwise specified)

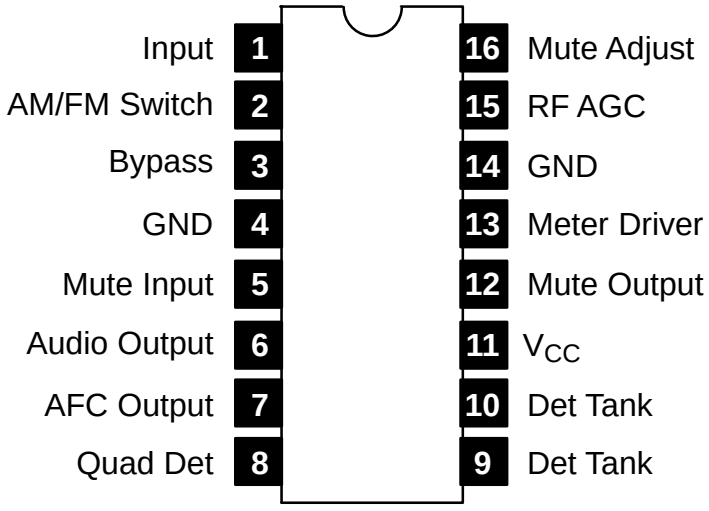
| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Static (DC) Characteristics** ($V_{CC}$ = 13V, No Signal) | | | | | | |
| Pin1 Voltage | $V_1$ | | – | 1.95 | – | V |
| Pin2 Voltage | $V_2$ | | – | 1.95 | – | V |
| Pin3 Voltage | $V_3$ | | – | 1.95 |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

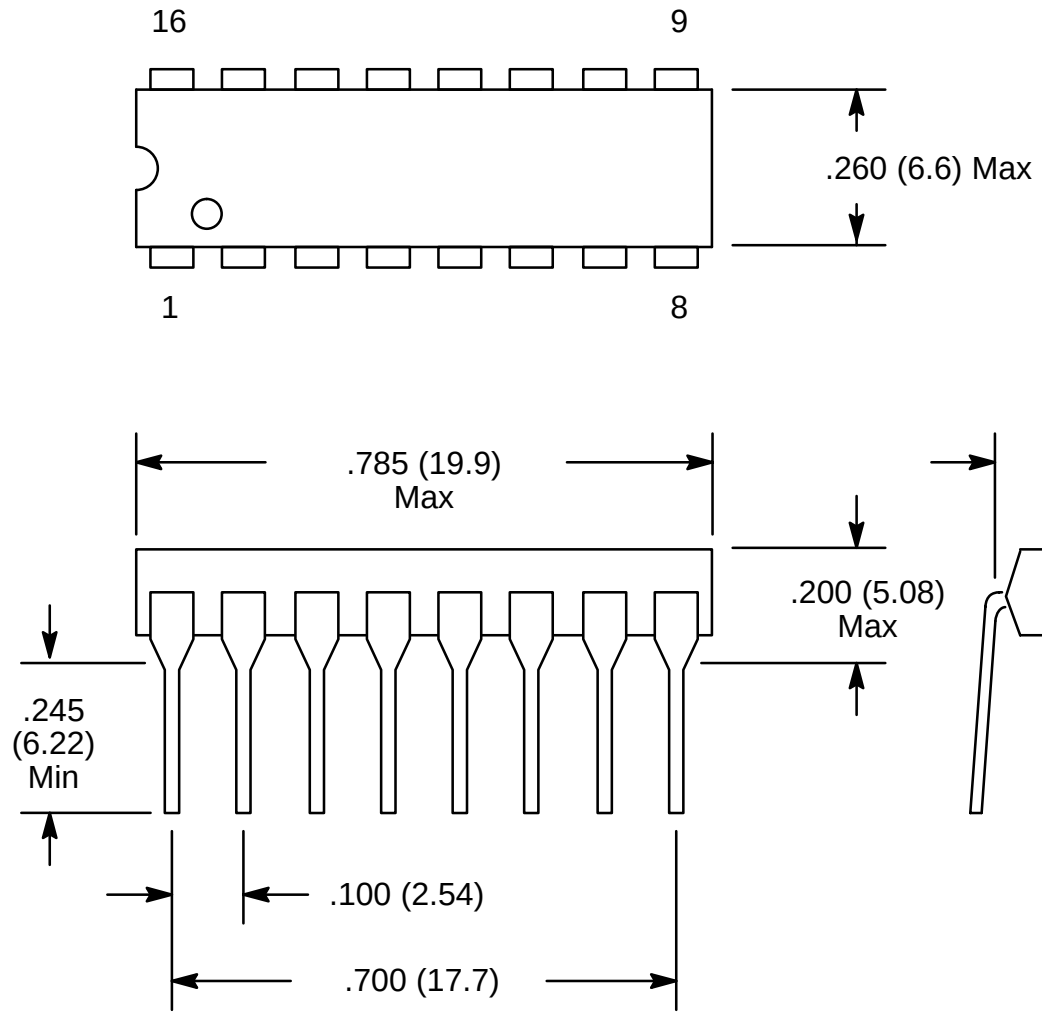
**Electrical Characteristics (Cont'd):** ($T_A$ = +25°C unless otherwise specified)

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

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

**Pin Connection Diagram**




16
9
.260 (6.6) Max
1
8
.785 (19.9)
Max
.300
(7.62)
.200 (5.08)
Max
.245
(6.22)
Min
.100 (2.54)
.700 (17.7)