The OP275 opamp.

This page last updated: 10 Jan 2001

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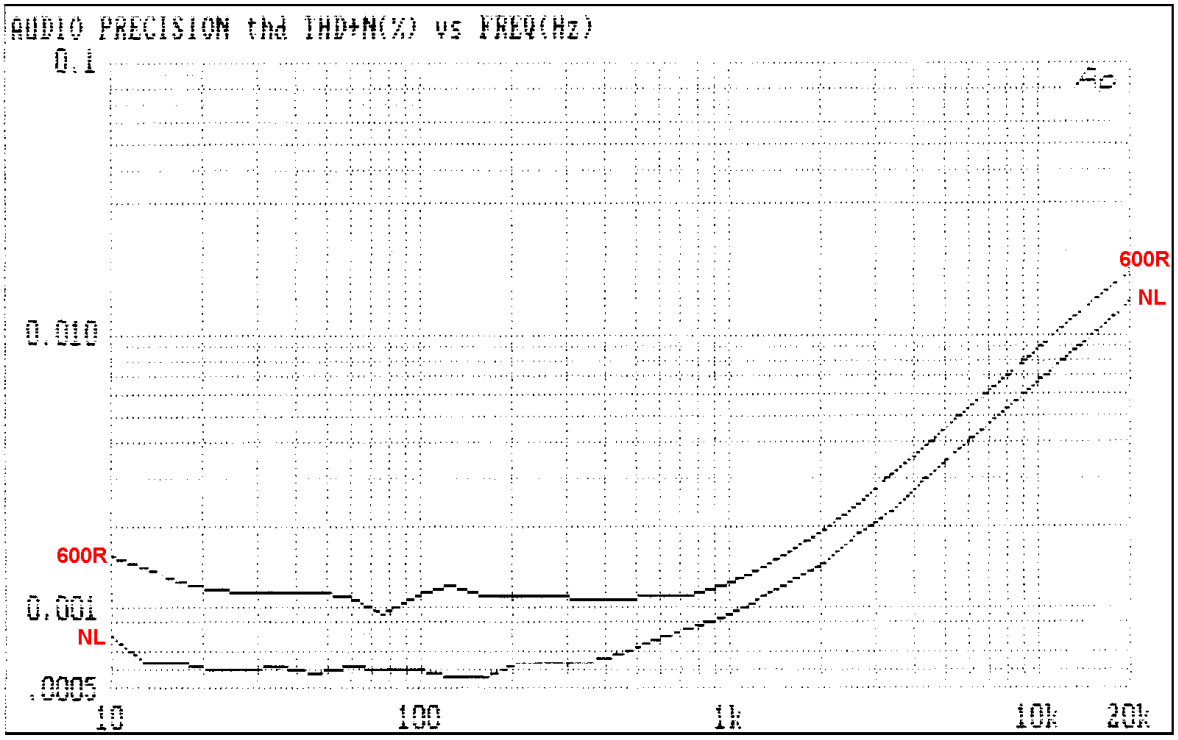
INTRODUCTION.
The Analog Devices OP275 is one of the few opamps specifically marketed as an audio device. Its most interesting characteristic is the Butler input stage; this combines bipolar and JFET devices. The idea is that the bipolars give accuracy and low noise, while the JFETs give speed and "the sound quality of JFETs". This final phrase is not a happy thing to see on a datasheet from a major manufacturer; the sound of JFETs (if any) would be the sound of high distortion. Let us however ignore this and see if the device actually works well. The datasheet includes a dissertation on "sound quality" which is not worth the ink expended in its last full stop.

SPECS.
Here are the vital statistics:
All typical values, for +/-15V supply rails.

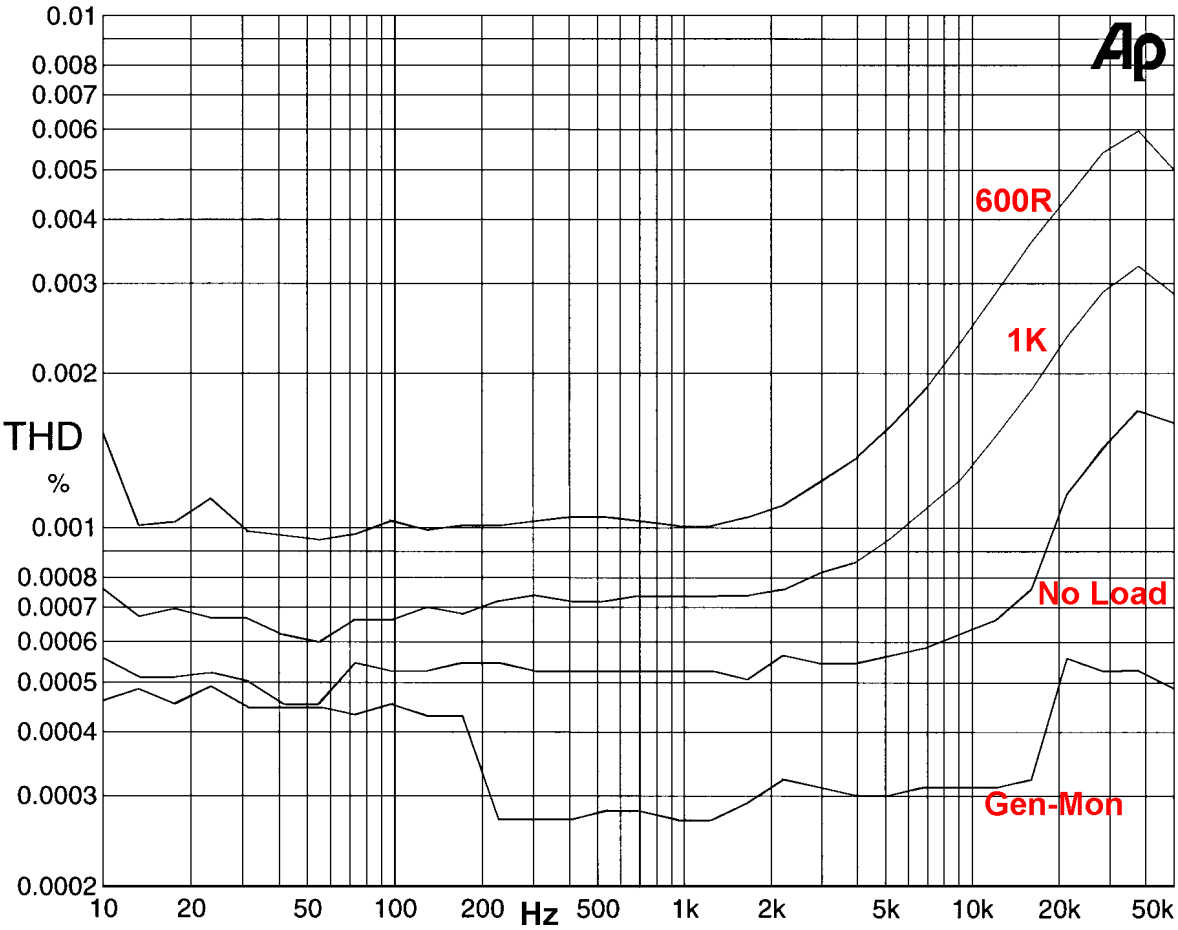
Supply voltage	+/-22V abs max
Output range	+/-13.9V typ (2K load)
CM range	+/-10.5V
en	6nV/rtHz typ 1 kHz
in	1.5pA/rtHz typ
Ibias	+/- 100nA
Slew rate:	22 V/us
Supply current	5 mA
Unity gain stable	YES
Cost	180p RS Jan 2001

Note: CM range is only about 2/3 of the voltage between the supply rails, Ibias is high due to BJT part of input stage.

The OP275 is a dual opamp. No single version is available.



OP275 driving 7.75 Vrms in No Load & 600 Ohms. THD below 1 kHz is definitel non-zer with the 600R load. Series feedbac gain 3.2



OP275 driving 5 Vrms in 1K & 60 Ohms. Shunt feedbac gain 2.2 but note noise ga =3.2x as for serie case.

Gen-mo trace shows distortio produce by the A System generat

The THD at 10 kHz, 600R load is 0.0025% for shunt and 0.009% for series feedback, which suggests CM distortion in the input stage. I appreciate the output levels are not the same but I think this only accounts for a small part of the THD difference.

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