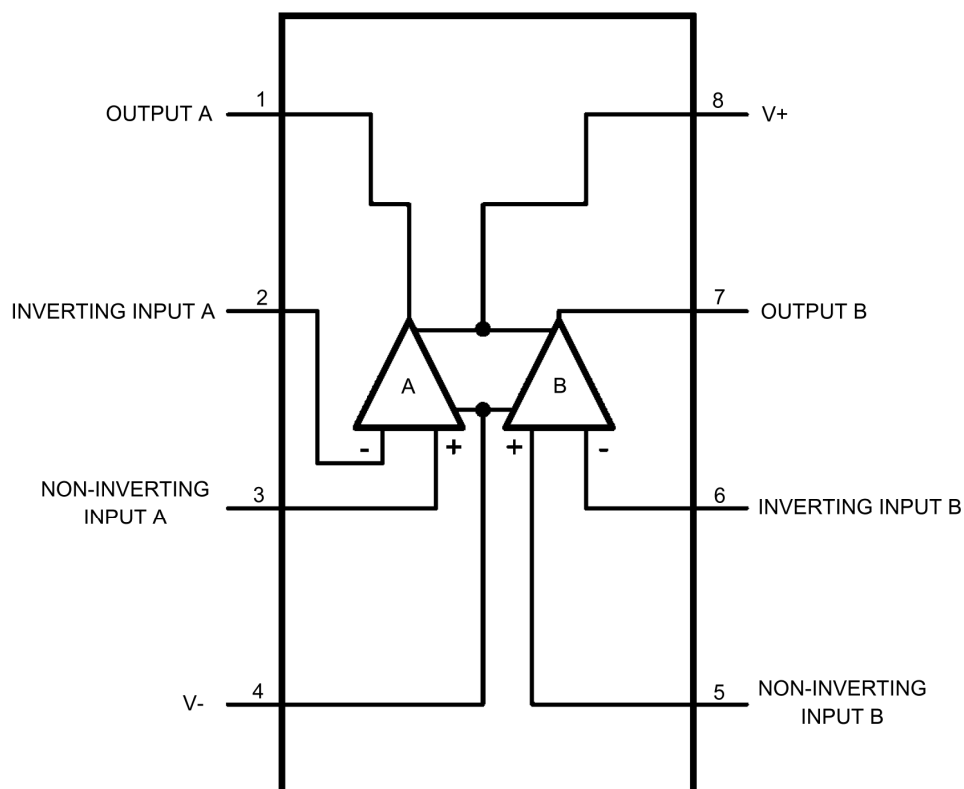


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## Dual Ultra Low noise, Ultra low distortion Operational Amplifier

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A 'Quantum Leap' in sound design technology...



**Designed to achieve the highest possible level of audio performance,  
Ultra Analog announce THE-2**

The term 'High Fidelity' means 'faithful reproduction' i.e. without adding or subtracting anything at all from the musical signal. This implies that in order to achieve a clean, clear transparent sound quality, there has to be zero added distortions of any nature (including THD, IMD, added noise, or slew rate limiting).

With the Ultra Analog THE-2, THD+N and IMD are virtually immeasurable.

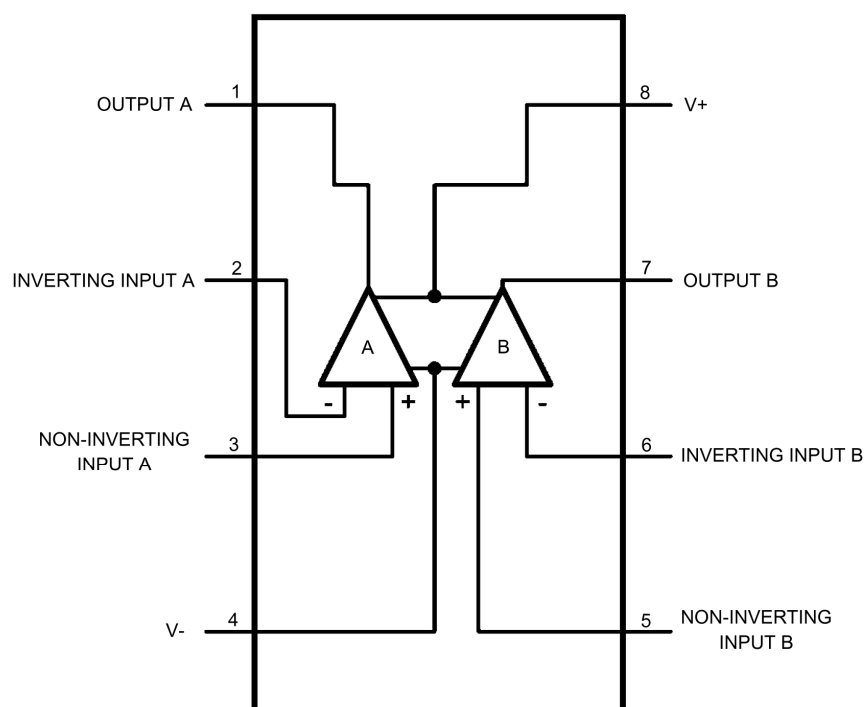
## THE-2 Applications

- Ultra low distortion, Ultra High Quality audio pre-amplifiers
- Ultra low distortion oscillators
- Spectrum analyzers
- ADC and DAC buffers
- Precision Instrumentation

## THE-2 Features

- Virtually zero distortion (0.00002%)
- High slew rate
- Easily drives 600 Ω
- Ultra Low noise ( $< 1.6nV/\sqrt{Hz}$ )
- Unity gain stable

## Connection diagram



**ELECTRICAL CHARACTERISTICS**

Parameter	Symbol	THE 2 (guaranteed)	Units
Operating Supply Voltage	$V_{cc}$	$\pm 5$ $\pm 18$	$V_{(Min)}$ $V_{(Max)}$
Power Supply Rejection Ratio	PSRR	125	dB
Common Mode Rejection	CMRR	130	dB
Gain Bandwidth Product	GBWP	60	MHz
Open Loop Gain	$A_{VOL}$	139	dB
Total Harmonic Distortion + Noise	THD+N	0.00002	%
Intermodulation Distortion	IMD	0.00002	%
Input Noise Voltage Density	$e_N$	<1.6	$nV/\sqrt{Hz}$
Slew Rate	SR	25	$V/\mu S$

**MAXIMUM RATINGS**

Power supply voltage (-V to +V)	38V
Storage temperature	-65 To 150°C
Infrared or convection (20 seconds)	260°C

**OPERATING RATINGS**

Temperature range	-40 To 85°C
Supply voltage range	$\pm 5V$ to $\pm 18V$

**DEVICE INFORMATION**

Device	Package Type	Package Drawing	Pins	Length	Width	Height
THE-2	SOIC	A	8	5mm	4mm	1.75mm



These devices have limited ESD protection. The device should be placed in conductive foam during storage or handling to prevent electrostatic damage.