

# Ultralow Noise, Low Distortion, Audio Op Amp

## FEATURES

- Voltage Noise:  $1.2\text{nV}/\sqrt{\text{Hz}}$  Max at 1kHz  
 $0.9\text{nV}/\sqrt{\text{Hz}}$  Typ at 1kHz
- Voltage and Current Noise 100% Tested
- Gain-Bandwidth Product: 40MHz Min
- Slew Rate:  $10\text{V}/\mu\text{s}$  Min
- Voltage Gain: 2 Million Min
- Low THD at 10kHz,  $A_V = -10$ ,  $R_L = 600\Omega$ : 0.002%  
 $V_O = 7V_{\text{RMS}}$
- Low IMD, CCIF Method,  $A_V = +10$ : 0.002%  
 $R_L = 600\Omega$   
 $V_O = 7V_{\text{RMS}}$

## DESCRIPTION

The LT<sup>®</sup>1115 is the lowest noise audio operational amplifier available. This ultralow noise performance ( $0.9\text{nV}/\sqrt{\text{Hz}}$  at 1kHz) is combined with high slew rates ( $>15\text{V}/\mu\text{s}$ ) and very low distortion specifications.

The RIAA circuit shown below using the LT1115 has very low distortion and little deviation from ideal RIAA response (see graph).

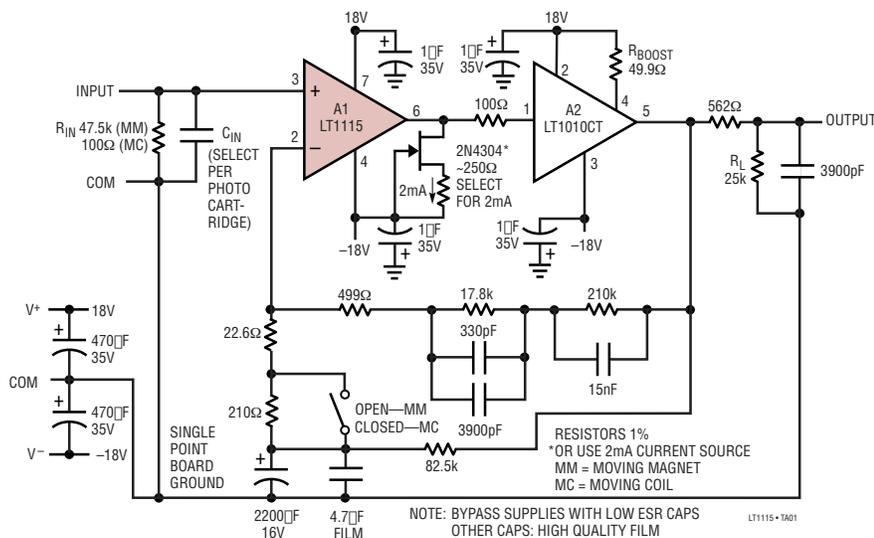
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## APPLICATIONS

- High Quality Audio Preamplifiers
- Low Noise Microphone Preamplifiers
- Very Low Noise Instrumentation Amplifiers
- Low Noise Frequency Synthesizers
- Infrared Detector Amplifiers
- Hydrophone Amplifiers
- Low Distortion Oscillators

## TYPICAL APPLICATION

**RIAA Phonograph Preamplifier (40/60db Gain)**



**Measured Deviation from RIAA Response. Input at 1kHz =  $1\text{mV}_{\text{RMS}}$  Pre-Emphasized**

