

This technical note presents the results of noise measurements made on a typical production run of LDX-3412 Precision Current Sources.

### MEASUREMENT SETUP

The LDX-3412s were set for an output of 100 mA through a 50Ω metal film resistor. A Millivac® MV-812A precision multimeter was used to measure the RMS noise voltage across the resistor (at room temperature), as shown below in Figure 1.

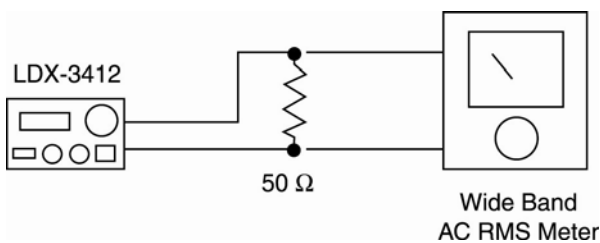


FIGURE 1 – Measurement Setup

Then the RMS noise current was calculated using Ohm's Law:

$$I = E / R$$

The output bandwidth of the LDX-3412 is 100 Hz, and the input bandwidth of the MV-812A is 5 MHz.

### RESULTS

The noise data was recorded for each LDX-3412, and this data was entered in the histogram shown in Figure 2. The typical output noise for an LDX-3412 is less than 1 μA rms.

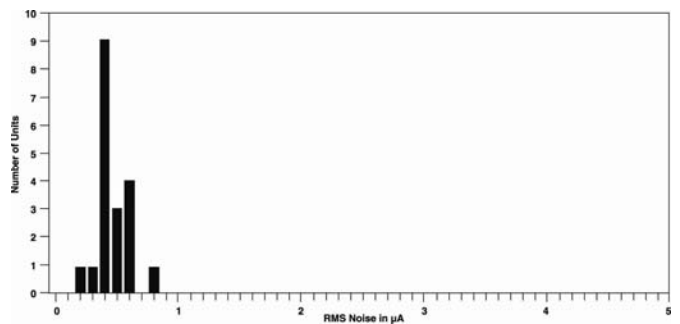


FIGURE 2 – LDX-3412 Output Noise Measurement Histogram