

An ultra-low noise, high-voltage piezo driver

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We present an ultra-low noise, high voltage driver suited for use with piezoelectric actuators and other low-current applications. The architecture leverages a commercially available, small-form-factor integrated circuit (IC) for generating high voltage outputs. The IC uses a flyback configuration switching regulator to generate up to 250V in our design (but up to 1kV or more with small modification), and a high slew-rate op-amp capacitively coupled to the output compensates for the switching noise. A low-voltage (± 10 V), high bandwidth modulation input is capable of summing small voltage corrections onto the output, making the driver well suited for use in closed-loop feedback applications.

I. INTRODUCTION

Introduction, why we care, overview of circuit design elements/features.

III. RESULTS

Noise analysis, bandwidth, (DC) stability, etc.

II. CIRCUIT DESIGN

Discussion of individual circuit components

IV. CONCLUSION

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