

# Professional Microphone Preamplifier Design Design Note #101

## High Dynamic Range, Low Noise Audio Electronics



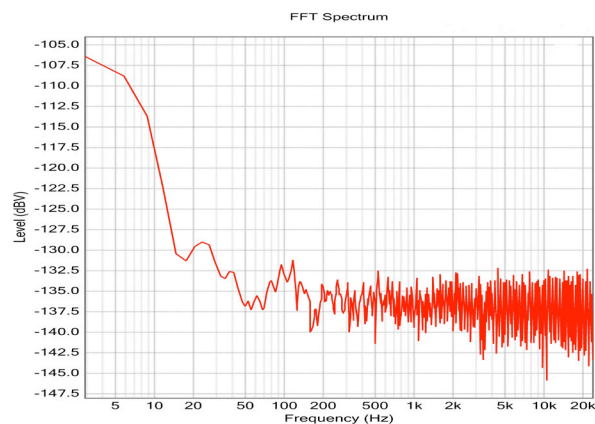
High dynamic range, low noise professional microphone design from Orchid Technologies gives her something to sing about.

### Professional Microphone Preamp Design

Microphone design requires low cost miniature electronics that pack a punch. Performance standards demand low distortion and high dynamic range while operating at a vanishing small noise floor. Audio performance must be flat over the entire spectrum while operating with only milliwatts of power. External environmental noise such as cell phone RF and high energy lighting systems can adversely affect microphone performance. Orchid's microphone preamplifier design gets the most from today's two and three lead microphone elements. Precision circuit layout and custom shielding techniques are the black magic which makes our designs sing.

### Low Noise Audio Electronics

Microphone design requires an analog noise floor below  $-120\text{dB}$ . That amounts to microvolts in a multi-volt output signal.



### Balanced Output Without Transformers

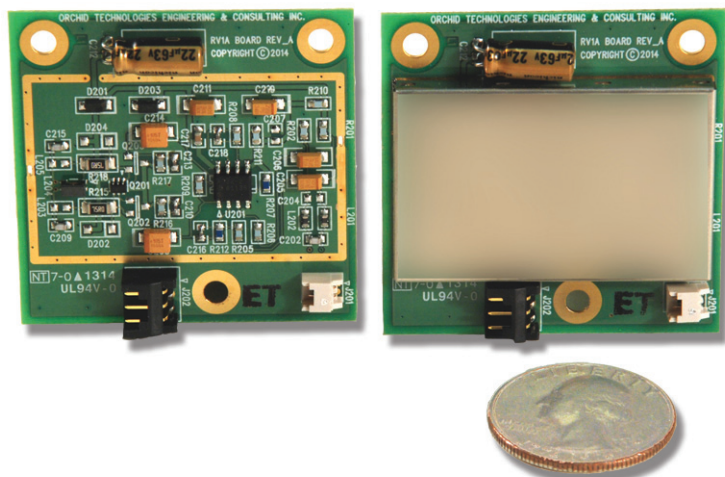
Light weight and low cost is achieved using today's high quality semiconductor devices. Orchid's solid state balanced output stage provides durable high reliability without the added cost and weight of expensive output transformers.

### Orchid Technologies: Precision Analog Design

The development of custom electronic products for our OEM clients is Orchid's entire business. The design of low noise professional audio electronics with rapid design cycles, demanding technical requirements, and unforgiving schedules sets us apart. Call Orchid Technologies today!

*"Finally, a microphone design we can all be proud of. Orchid's design is the best microphone electronics we've ever produced.*

- VP Advanced Engineering



ORCHID TECHNOLOGIES  
ENGINEERING & CONSULTING, INC.

**Custom Engineering From Concept to Production**

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