



When your old super-ray-gun is in need of redesign, Orchid Technologies can get the job done. Redesign of aging or obsolete electronic equipment is our specialty.



“Keep the original package and user interface. Update the electronics, add USB Support and a few other features and give me seven more years of sales. Your design works better than our old one. And you’re on time and on budget, nice job Orchid.”

- Applications Engineering



## Obsolete Product Redesign – LCR Bridge

Orchid Technologies was selected to update the electronics design of the Precision LCR Instrument shown below. Accurate to 0.05%, the original 1988 instrument design was well executed. However, vintage 1980’s state of the art electronic components were going ‘end-of-life’ at an alarming rate. Orchid studied the design and operation of the existing equipment. We generated a detailed development plan proposing significant technical improvements, and cost reductions. Then we set to work. Our new instrument is form, fit, and function compatible with the old, while achieving improved accuracy and a 3x increase in measurement speed.

## Obsolete Product Assembly Simplification

The original LCR meter required multiple circuit boards to perform its functions. These circuit boards were shielded with a complex jumble of sheet metal, spacers, and screws. Additionally, expensive coax cables were installed to make the DUT connection. Orchid’s new design is elegantly simple. All circuitry is now on a single board, Altera FPGA devices integrate digital functions, and system shielding has been simplified. The result—a lower cost, easier to build, easier to service assembly that has another five to seven years product life.

## Precision Analog and Digital DSP Technology

Low total-harmonic-distortion precision sine wave generation, phase-balanced analog amplifiers, low noise power systems, and very high accuracy 18 bit analog to digital conversion circuitry were our design challenges. A Texas Instruments TMS320C6713B performs high speed floating point calculations in support of the measurement functions.

## Orchid Technologies: Electronics Redesign

The development of custom electronic products for our OEM clients is Orchid’s entire business. The redesign of high performance instrumentation with rapid design cycles, demanding technical requirements, and unforgiving schedules sets us apart. Call Orchid Technologies today!

