

Just What Does TEAL Do?

TEAL's Mission:

To help our customers make their products more competitive and reliable by engineering and manufacturing innovative custom power solutions.

Just what does TEAL do? TEAL Electronics specializes in the design and manufacturing of custom power solutions for Original Equipment Manufacturers of systems that require high power (high power being loosely defined as much greater than the standard household 120V, 15A outlet) and contain sensitive electronics (such as computer control systems).

TEAL Electronics was founded in 1985 as a manufacturer of isolation transformer based power-conditioning equipment. Isolation transformers are useful devices that help to separate, or isolate, the customer's equipment from the AC power mains. The isolation is important to keep electrical noise out of equipment, which may otherwise be damaged or disrupted. The typical TEAL product sits between the AC mains (the source of noisy or dirty power) and the customer's equipment, cleaning up the power and converting the voltages for the customer. Electrical noise is becoming more important every day with the ever-increasing abundance of electrical appliances and devices that generate electrical noise.



Large 3-Phase Isolation Transformer (bottom) and small 1-Phase Isolation Transformer (top).

From the roots of supplying isolation transformers, TEAL quickly found a niche market serving the unique needs of Original Equipment Manufacturers (OEMs) with custom AC power subsystem designs. AC power subsystems typically consist of the following components:

- An Isolation Transformer (as described above) to re-create a very good electrical grounding point for equipment, to isolate the line (AC mains) from the load (the customer's equipment), to filter out the electrical noise picked up from nearby equipment (common-mode noise), and to convert voltages (either step-up or step-down the mains voltage to adapt local voltage to the customer's equipment requirement).
- A High Energy Low-Pass filter to filter out high-frequency transients such as electrical noise created by a switch-mode power supply or X-Ray generator.
- A surge-suppressor to help suppress the larger transients created from events such as nearby lightning strikes.

By outsourcing non-core technologies such as power subsystems and power-management to TEAL, the OEMs are able to focus on their main product, enabling them to quickly react to the constantly changing market by focusing their limited resources in the most critical areas.

TEAL Electronics designs and manufactures custom power subsystems for a wide variety of customers and markets. Many of TEAL Electronics' customers are the market leaders in their

industries, and they develop and deploy state-of-the-art electronics systems around the world. Some examples of these markets are Semiconductor Manufacturing and Test, Medical Imaging, Information Technology/Telecommunications, Industrial Automation, Digital Printing and Graphics.

TEAL's customer's equipment is installed all over the globe, in a variety of electrical environments. These customers rely on TEAL power subsystems to isolate their state-of-the-art electronics from damaging voltage and current transients, convert world input voltages to a standard system voltage, and distribute AC and DC power to their equipment.



A variety of TEAL power subsystem products, from small shoebox size units for Chevron stations (far right), to 4 ft. tall units for Philips Medical (far left)

The specific products and services that TEAL typically provides to our customer base include the design, certification (agency approval), and manufacture of:

- Custom Power Subsystems
- Custom Power Conditioning Systems
- Custom Power Distribution Systems
- Overall Power Quality Systems

Each of the above include one or more of the following features:

- **Ultra Low Impedance Isolation Transformers** - TEAL's patented isolation transformer technology designed for high power loads enables high peak current to be delivered to the load with minimal voltage drop while virtually eliminating common mode noise.
- **World Input Voltage Capability** - Enables the identical customer equipment to be used virtually anywhere in the world from 200VAC to 600VAC.
- **Power Conditioning** – Patented and Patent-Pending High Energy Filtering and Surge Suppression circuitry that improve the quality of the power and protects valuable equipment.
- **Power Distribution** - Multiple output voltage capability allows all the equipment within the customer's system to be operated from a single power source.
- **Enhanced Grounding** - Clean single point ground to eliminate ground loops.
- **Line Regulation** - Ultra high reliability AC line regulation provides stable output voltage to sensitive equipment even if the voltage mains fluctuate.
- **Regulated Bulk DC** - High power DC voltage output for DC distribution.
- **Power Controls** – Various controls and emergency shut-off circuitry as part of a power subsystem to control the flow of power.

Additionally, the standard TEAL lead-time for custom designs, from concept to prototype delivery, is 8 weeks and the lead-time for production units is typically 2.5 weeks, both of which are industry leading.