

device power management



Multi-Flex™ Device Power Management Technology

Manage any combination of power sources, in any ratio, and in any direction:

- Charging systems
- Battery storage
- Ultracapacitors
- Fuel cells
- Photovoltaics (Solar)

With the ever-increasing number of portable electrical devices, there is an expansion of the number of battery configurations powering these devices. It appears that each has a different type and size of battery, and that they all require different chargers. For example, your old cell phone battery and charger may not work on your new one, even if it is from the same manufacturer. While this is an inconvenience for the consumer, it is a growing problem for the Warfighter.

With Multi-Flex™ technology, any electrical device can be powered by any battery or power device at hand. If needed, the Multi-Flex™ can be made field programmable to utilize any power device found in the battlefield.

Device Power Management

Most consumers have a drawer full of different chargers for cell phones, cameras, and music devices. While inconvenient, it is not as much of a problem as our Military faces with their electrical equipment. Over the last few years, there has been a proliferation of electrical devices in the theater. There are devices for communication, navigation, night vision, targeting, and computing to name a few. To keep this equipment operational, there are a variety of batteries, fuel cells, and solar power devices. The Warfighter is faced with carrying several batteries and charging devices to keep equipment operational. Many consumers would prefer a single device that powered and charged any electrical device owned. However, what today is a minor consumer inconvenience is a major problem for Warfighters.

The Multi-Flex™ is a hardware and software system for managing energy between any number of sources (such as batteries) and uses (such as a handheld electrical device). By applying various software algorithms, the Multi-Flex™ can power any device from nearly any power source. Below is an illustration of the practical benefit of the Multi-Flex™ to the Warfighter.

The Multi-Flex™ offers the following power management features:

- The microprocessor within the Multi-Flex™ can be programmed to work with any existing power unit. The Multi-Flex™ corrects voltages so the voltage is not a concern as long as the power is available.
- A quick software download can configure the Multi-Flex™ to work with new power unit profiles as they become available.
- The system will allow “opportunity charging” by allowing any battery found in the field to charge any other device or storage system.

The Multi-Flex™ is scalable so that it can work with the smallest electrical device up to the largest, including the electric power grid. Configurations are available for vehicles and micro-grids, blending wind, solar, generators, and battery storage units. The Multi-Flex™ can smooth power, targeting constant voltage, constant current, or power.

