

# ULTAMUS™ RAID ADVANCED POWER MANAGEMENT



**ULTAMUS™ RAID 4800**  
up to 96 TB capacity

**ULTAMUS™ RAID 1200**  
up to 60 TB capacity

- Standards-based hard disk drive power savings settings
- Intelligent policy-based, parallel drive power management
- Manual command-based power management via ULTAMUS RAID manager and the ULTAMUS RAID Command Line Reference
- User-configurable interval for screening inactive drives and schedulable patrol to ensure efficient access to data when needed
- Non-disruptive power management with fast spinning up of drives when data is accessed, and file systems remaining active during spin-down
- Available for any drive type or manufacturer
- ULTAMUS RAID manager controller based or host based management software

## EFFICIENT, INTELLIGENT POWER MANAGEMENT

Servers and storage consume a massive amount of electricity and air conditioning, usually powered on for 24 hours a day, seven days a week. As a result, enterprises have growing utility bills and an increasing impact on the environment. In many applications, the storage is not required to be active full time. In these cases, ULTAMUS RAID Advanced Power Management can be used to reduce the operational costs of the RAID storage system, while ensuring continuous availability to data. ULTAMUS RAID Advanced Power Management is intelligent power management, maintaining data access and integrity while enabling lower power consumption. ULTAMUS RAID Advanced Power Management can reduce energy consumption by up to 40%.

## REDUCE POWER CONSUMPTION WITH ENERGY MANAGEMENT

As companies expand their data storage capacity and capability, those assets must be available at all times. However, keeping this storage continuously active increases both electricity and cooling costs. In fact, during just three years of operation, these costs can exceed the initial acquisition costs of those storage systems. ULTAMUS RAID Advanced Power Management gives solutions integrators and IT departments the ability to keep storage systems online and available while dramatically reducing their requisite power needs. By intelligently identifying groups of physical drives that are accessed in parallel to spin down and spin up, Advanced Power Management satisfies requests from applications while using less energy. This approach to energy storage consumption also ensures that data integrity is protected and retrieval times are minimized.

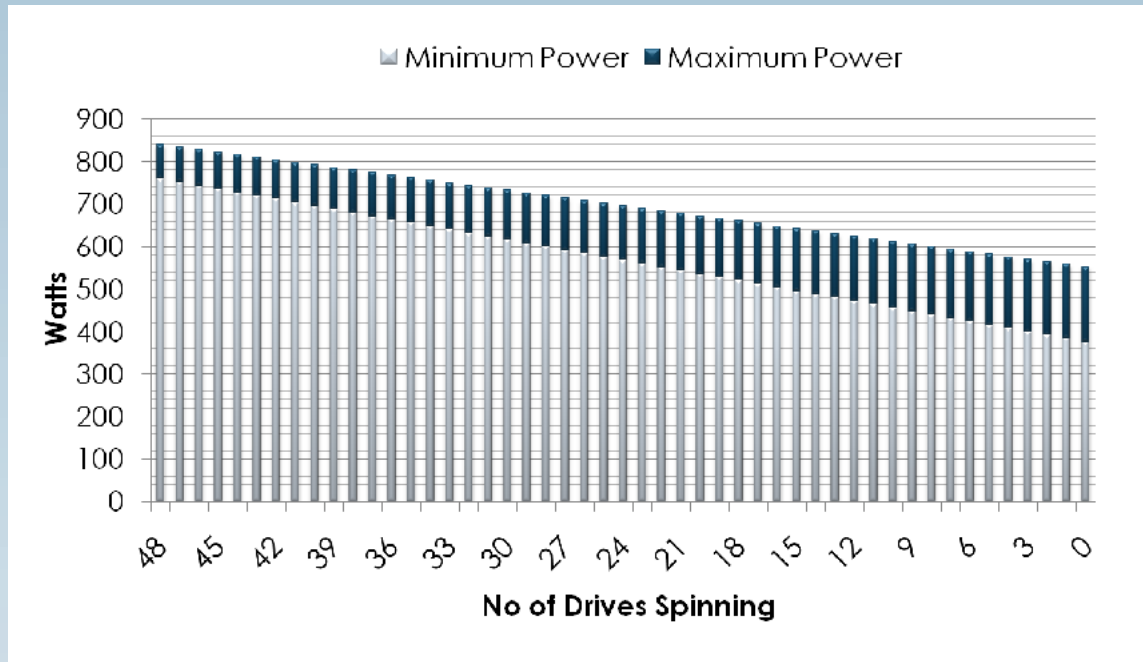
ULTAMUS RAID Advanced Power Management capabilities are implemented using standard SCSI commands, so RAID power savings is not dependent on any particular drive manufacturer or drive type. Advanced Power Management can be used to increase the energy efficiency of both SAS and SATA disk drives.

## POLICY-BASED DRIVE MANAGEMENT FOR POWER SAVINGS

ULTAMUS RAID Advanced Power Management saves power by administering policy-based drive management that spins drives up and down at pre-determined usage intervals. For example, IT departments create policies to search out disk drives that have not been accessed within a particular time, so that any drive determined to be unneeded during the interval specified by the customer will be eligible for spin down. Meanwhile, a schedulable patrol function regularly inspects drives that have been spun down to ensure those drives will spin up on demand to quickly satisfy any command request without affecting application performance or availability. At the same time, Advanced Power Management is intelligent enough not to apply a power savings policy to drives that will soon be accessed, drives that are members of a set where rebuilding a failed drive is occurring, being initialized, flagged as degraded, or drives used for ULTAMUS RAID Snapshot functions. By intelligently and efficiently managing power distribution and drive spin, companies have the ability to greatly reduce their utility spend. In fact, while typical power savings will depend on the specific application of the Advanced Power Management policy, RAID storage systems can reduce power consumption by up to 40 percent.

Coupled with the latest energy-conscious hardware components, ULTAMUS RAID 4800 includes power-saving software technology that allows idle drives to spin-down in effort to further reduce energy consumption.

Unlike most MAID implementations, ULTAMUS RAID uses standards-based drive power saving settings, delivering a more effective and application-friendly approach to nondisruptive power management allowing organizations to save up to 40 percent in power consumption without impacting I/O and application uptime or performance.



	ULTAMUS RAID Advanced Power Mgmt	Nexsan AutoMAID	Infortrend Drive Spin Down
Policy-Based Drive Spin Down	Yes	Yes	Yes
Granularity	Array	Drive	Drive
Patrol Function	Yes	Yes	No
Customer Configurable Screen Parameters	Yes	Yes	Yes
Command Line Interface for Application Integration	Yes	No	No
GUI Command Based Drive Spin Down/Spin Up	Yes	No	No

