

## Chapter 1 Introduction

The DA-3000 is an Ultra2-to-Ultra2 SCSI RAID controller specifically designed to provide RAID 0, 1(0+1), 3, 5 or JBOD capability to any host system equipped with a SCSI interface. It is totally independent of the host system's operating system. All RAID functions are performed by an AMD 5x86 CPU coupled with high-speed DRAMs and firmware in flash memory. In effect, it endows the host system with a high-speed and fault-tolerant disk storage operation using the RAID technology. It is an ideal solution for weaving several hard disks into one contiguous volume.

The controller has comprehensive drive failure management that allows automatic reassignment of reserved blocks when a bad sector is encountered during a write. Hot-swapping is supported through automatic disconnection of a failed drive and detection of a reserved drive followed with background rebuilding of data. The controller also supports spare drive operation. What is remarkable is all these failure recovery procedures are transparent to the host system.

The controller has been designed with ease of integration and maintenance in mind. All major features are described in the next chapter. The DA-3000 already includes all the major operational requirements of a RAID subsystem. The overall features of a fully-built RAID subsystem will, however, depend on the actual components used and the creativity of the integrator.