



# Fusion Embedded™ File System

The Fusion Embedded Flash File System is a small footprint, multi-threaded capable, highly reliable, embedded FAT12/FAT16/FAT32 compatible flash file system. It is targeted towards embedded applications where Flash, RAM or ROM is used for the file storage media. The Fusion Embedded Flash File System is capable of managing multiple independent volumes. It delivers a layered driver architecture using a simple binding model allowing for OS-agnostic portability. The Fusion Flash File system has a rugged design that supports wear-leveling, post error correction and file compression. The flash file system is ANSI Ccompatible and provides a standard interface. The file system is fully dynamic (not a read only ROM style file system).

A full suite of supporting software modules is provided with the Fusion Embedded Flash File System.

## Included Software

- Tested C Library
- Driver Model
- I/O Manager
- PC Imager Tool
- Error Correction
- File Compression

## Reliability

Unlike a hard-drive or RAM storage media, a flash device in an embedded product may become worn and induce errors in stored data over time. To effectively manage this and to extend the reliability of the end application, the Fusion Embedded Flash File System has incorporated several features that greatly extend end-user product reliability. These enhancements include strategic caching of key data, wear leveling of erasable flash blocks, dynamic tracking of bad blocks and user callable error correction functions.

## Fusion Embedded PC Imager

The flash file system comes with the Fusion Embedded PC Imaging tool. This tool is designed to allow the user to easily embed an existing PC directory structure and files into their embedded product. The PC Imaging tool will convert a user directory structure that resides on a PC to a volume in a .h file

that can be linked into the embedded application. This will then become a volume that the Fusion Embedded Flash File system can mount to. All of the files and directories on the PC will then be available in the embedded product.

## C Library

The Fusion Embedded Flash File System requires several standard C library functions. It is designed to use either the provided library or a user supplied C library. The provided C library supports the required Memory Management, Character, Functions, String Management, and Time, Management.

## Flash File Features

- Rugged Re-entrant Embedded Flash File System FAT 12/ FAT16/FAT 32
- Full Wear-Leveling
- Reduced Wear design
- Fully dynamic for all functions
- Multiple Volume Support
- Royalty Free
- Long File Names Support
- OS Agnostic
- Support for Run-time media

## Flash File System

