

DiskOnChip[®] BDK - Boot Developers Kit

FEATURES

- **Allows booting in any non-BIOS environment from DiskOnChip's Binary (boot) Partition**
- **Provides possibility to store the OS image, as well as additional boot time data (spare OS image, Registry, etc.) in Binary Partition**
- **Supports all DiskOnChip Products**
- **Portable ANSI-C source code**
- **Optimized for Windows CE designs – Storage of OS image, Registry Entries, Applications and user data on the DiskOnChip**
- **Supports Reed-Solomon Error Detection Error Correction**
- **Implements bad block management in Binary partition**

Overview

M-Systems' DiskOnChip BDK (Boot Developers Kit) is a portable tool kit that enables the system integrator to boot any OS image directly from the DiskOnChip and to store boot time data in a separate partition on the DiskOnChip, thereby

protecting it from user corruption.

It includes full ANSI-C source code, documentation, examples and utilities that together provide optimal flash media utilization and the easiest integration method to any operating system and/or platform.

The DiskOnChip BDK is optimal for implementing a boot solution for any Operating System and CPU environment. It also allows advanced implementation for: data storage back-up, automatic saving and loading of Windows registry entries and other applications after basic system initialization. Due to its simplicity, design time is reduced to the minimum.

The DiskOnChip BDK utilizes advanced flash management technology to guarantee ultimate reliability:

- Supports Reed-Solomon Error Detection and Correction
- Bad block management

DiskOnChip BDK API

A very small boot block is required to store the minimal

system H/W initialization code, the BDK functions and the Operating System Execution code. The Operating System image itself is stored on the DiskOnChip Binary Partition, providing flexibility for future OS image updates.

Upon boot, the code stored in the boot block is executed. After system H/W initialization the BDK functions are called to copy the OS image from the DiskOnChip binary partition into RAM, and a jump to the start of the OS image in RAM is made and the OS is launched.

After the OS is launched, a separate File System partition can be stored and managed on the rest of the DiskOnChip (e.g., FAT) and can be accessed through the DiskOnChip TrueFFS[®] driver, incorporated in the OS image.

The DiskOnChip BDK also allows the user to implement more advanced applications, like managing several partitions for spare OS images, and boot time data partitions, such as the Windows CE Registry Entries.



SPECIFICATIONS

Device Support

DiskOnChip Millennium

DiskOnChip 2000

DiskOnChip DIMM2000

Portability

ANSI C code, portable to any application, operating system, compiler and platform

BDK High-Level API*

Basic Image Handling

bdkFindDiskOnChip

bdkCheckSignOffset

bdkCopyBootArea

bdkCopyBootAreaInit

bdkCopyBootAreaBlock

bdkInit

bdkExit

bdkSetDocWindow

bdkGetBootPartitionInfo

Features

- OS image storage and update in Binary Partition
- Storage of Windows CE Registry Entries in Binary Partition, providing a single-boot solution
- Low-level copy utility

Scalability

Supports up to four DiskOnChip Millennium TSOP devices cascaded into a single flash disk

Advanced Image Handling

bdkCopyBootAreaFile

bdkUpdateBootAreaFile

bdkUpdateBootAreaInit

bdkUpdateBootAreaBlock

* From version 1.22 and up

Additional Tools and Information

AP-DOC-20	Application Note - DiskOnChip Boot Developers Kit
AP-DOC-17	Application Note - Using DiskOnChip with Windows CE
AP-DOC 40	Application Note - Programming DiskOnChip Millennium TSOP, Using a Bed of Nails
DiskOnChip Data Sheets	DiskOnChip 2000, DiskOnChip Millennium and DiskOnChip DIMM2000 Data Sheets
DiskOnChip Utilities – User Manual	DiskOnChip DOS Utilities User Manual

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91-SR-002-11-8L REV 1.1 09/00