



User Manual

DiskOnChip[®] 3.3V DIP EVB (Evaluation Board)

SEPT-2000

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1 Introduction

DiskOnChip[®] 3.3V DIP EVB (Evaluation Board) is an ISA card with a socket for DiskOnChip 3.3V DIP products. The adapter is a useful tool for designers who need to evaluate, program and test the DiskOnChip 3.3V, prior to target platform availability.

M-Systems' DiskOnChip is a new generation of high performance single-chip flash disks. The DiskOnChip DIP provides a flash disk in a standard 32-pin DIP package.

This unique product offers a data storage solution for applications with limited space and disk capacity requirements of 16MB to 288MB, such as Embedded Systems, Internet Access Devices, Network Computers and Mobile Systems.

The DiskOnChip 3.3V DIP can be inserted into the target platform and into an adapter. Access in both cases, is attained by using the standard utilities (DFORMAT, DINFO, DUPDATE, etc.). In addition, the DiskOnChip 3.3V DIP EVB can be used to duplicate DiskOnChip DIP devices (using the GETMIMG and PUTMIMG utilities). For further information refer to the DiskOnChip Utilities User Manual.

2 The DiskOnChip 3.3V DIP EVB Kit Contents

This kit includes the following items:

- DiskOnChip 3.3V DIP EVB ISA Card
- Utilities Diskette
- DiskOnChip Product Manual
- DiskOnChip 3.3V DIP EVB User Manual
- Warranty

The EVB includes the following parts:

- Address decoder implemented with 74FCT139A, 74FCT138A devices
- One jumper (JP2)
- Buffers

3 The DiskOnChip 3.3V DIP EVB

The DiskOnChip 3.3V DIP EVB includes the following:

- 32-pin DIP socket
- Simple address decoding jumper

The DiskOnChip requires a memory window of only 8KB. The adapter was designed to accept one of three addresses: hex C800h, D000h or D800h. Refer to Table 1 for the required address selections.

3.1 Determining the Window Address

The card includes a jumper (JP2), which determines the memory window base address that the DiskOnChip is mapped into (refer to Table 1). The window size is 8KB according to the DiskOnChip requirements.

The factory default addresses occupied by the DiskOnChip are D000h to D7FFh)

1	2	C800-CFFF
3	4	D000-D7FF
5	6	D800-DFFF

Table 1 – JP2 Settings

4 Integrating the DiskOnChip 3.3V DIP into the Target Platform

Since the platform generates the address decoding, the only additional requirement is the integration of a standard 32-pin DIP socket. For information on how to integrate the DiskOnChip 3.3V DIP into specific target designs, refer to Application Note AP-DOC-010: “Designing with the DiskOnChip”.

5 Using the DiskOnChip 3.3V DIP EVB

5.1 System Requirements

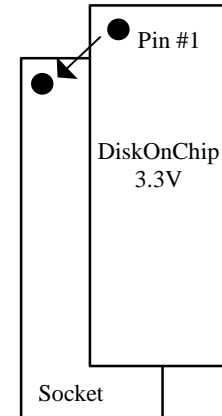
- A PC with a free ISA bus slot
- 8KB of free memory space in the ROM expansion memory of the PC (between C800 and E800).

5.2 Installing the DiskOnChip 3.3V DIP EVB

1. Ensure that power is OFF.
2. Insert the DiskOnChip 3.3V DIP into the socket on the EVB. Ensure that the DiskOnChip 3.3V DIP is inserted in the right direction!

Note: Make sure to insert pin 1 (marked by a dot) into hole 1 in the socket (marked by a dot)

Warning! *The DiskOnChip 3.3V DIP might be damaged if inserted in the wrong direction!*



3. Ensure that the EVB setup is correct (usually, address hex D000h is recommended).
4. Insert the EVB into the target host's free ISA slot.
5. Power ON the host system. The DiskOnChip drivers' messages are displayed on screen. If the drivers' messages are not displayed, the DiskOnChip may not have been programmed, or the card's setup may be incorrect.
6. The DiskOnChip 3.3V DIP is now available as a standard disk drive, and can be used to store and run any standard software.

5.3 Identifying the DiskOnChip

There are two utilities that can be used to identify the DiskOnChip:

- If the drivers were loaded correctly, i.e. the sign-on messages were displayed, use the DINFO utility.
- If the messages were not displayed, then use the DOCPMAP /I utility to search for the DiskOnChip.

5.4 Re-formatting the DiskOnChip

Warning! *Running DFORMAT erases all the data from the DiskOnChip. Make sure to back up all data before running this utility.*

The DiskOnChip can be re-formatted on-board using the DFORMAT utility. The DFORMAT utility can be used whether or not the device was recognized by the system or was assigned a drive letter. In the first case the command is `DFORMAT D:` (assuming the drive letter assigned is D).

After running DFORMAT you must reset the system to allow the changes to take effect.

If the DiskOnChip was not assigned a drive letter, the start address of the window address in which the DiskOnChip is mapped in the system memory is required. Use the DOCPMAP utility (see above) to find the base address of the DiskOnChip. Use the command `DFORMAT /WIN:D000 /S:DOC2.EXB` (assuming the DiskOnChip was mapped to hex D000 address and that the firmware file supplied by M-Systems is named DOC2.EXB).

For detailed information on the DFORMAT utility refer to the “DiskOnChip Utilities User Manual”.

6 Utilities for the DiskOnChip 3.3V

All DiskOnChip utilities can be used, as described in “DiskOnChip Utilities User Manual”.

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