M-Systems
Flash Disk Pioneers

User Manual

DiskOnChip 9x12 BGA-to-32-Pin DIP Adapter

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1 General

The DiskOnChip 9x12 BGA-to-32-pin DIP adapter enables developers to evaluate M-Systems' DiskOnChip BGA 9x12 devices with any M-Systems evaluation board that contains a 32-pin or 40-pin DIP socket.

1.1 Supported DiskOnChip Devices

The DiskOnChip 9x12 BGA-to-32-pin DIP adapter supports DiskOnChip Millennium Plus 9x12 mm BGA in 16MB, 32MB and 64MB capacities, and Mobile DiskOnChip Plus in 16MB, 32MB and 64MB capacities. See Section 3.1 for ordering information on the supported DiskOnChip devices.

1.2 Compatible DiskOnChip Accessories

The following DiskOnChip accessories contain a DIP socket (32-pin or 40-pin) and can be used with the adapter:

- ISA Bus EVB for 3V DIP
- ISA Bus EVB for 5V DIP
- PCI EVB (for all products except DIMM)
- GANG Programmer, Revision C

Note: The Local Bus EVB for 9x12 BGA and DIP products contains an on-board 9x12 BGA socket, therefore the 9x12 BGA-to-32-pin DIP adapter is not required.

See Section 3.2 for ordering information on the supported DiskOnChip accessories.

2 Using the DiskOnChip 9x12 BGA-to-32-Pin DIP Adapter

2.1 Jumper Settings

The adapter contains the following four jumpers:

- **J1**: Not used, and should be left open.
- **J2**: Used for the device LOCK# pin. The default setting is open and leaves the LOCK# pin negated.
- **JP1** and **JP2**: Used for matching the host voltage supplied by the EVB or the GANG Programmer, either 3.3V or 5V. Also used for setting the VCCQ for DiskOnChip. See Table 1 for the correct settings.

Table 1: Jumper Settings for Voltage Configuration

Host Voltage	Required VCCQ Voltage	JP1	JP2
5V	3.3V	1-2	2-3
5V	1.8V	2-3	2-3
3.3V	3.3V	1-2	1-2
3.3V	1.8V	2-3	1-2

Note: For devices where VCCQ=VCC, a VCCQ voltage setting of 1.8V will not work.

2.2 Inserting the Adapter into a DIP Socket

To insert the adapter into a DiskOnChip EVB or GANG Programmer equipped with a DIP socket:

1. Identify pin #1 of the DIP adapter by locating the white triangle on the PCB. Pin #1 is located on the left side of the triangle. Figure 1 illustrates the location of the white triangle.
2. Insert the adapter by aligning pin #1 of the adapter with pin #1 of the DIP socket on the EVB or GANG Programmer.

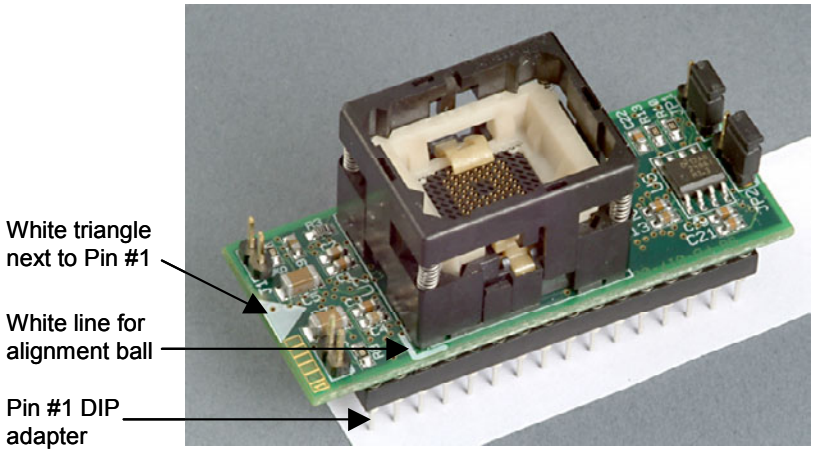

Figure 1: DiskOnChip 9x12 BGA-to-32-Pin DIP Adapter

2.3 Inserting DiskOnChip into the Adapter

To insert a DiskOnChip 9x12 BGA device into the adapter:

1. Identify the alignment ball (A) of DiskOnChip, at location C1 in the ball diagram. Refer to the relevant data sheet for more information on the ball diagram.
2. Place DiskOnChip in the socket so that the alignment ball faces the white line on the PCB. See Figure 1 for the location of the white alignment line.

3 Ordering Information

3.1 DiskOnChip

Ordering information for DiskOnChip devices supported by the BGA-to-32-pin DIP adapter is listed in Table 2.

Table 2: Ordering Information for Supported DiskOnChip Devices

Device	Capacity	Product Number
DiskOnChip Millennium Plus	16MB	MD3831-D16-V3Q18-T
	32MB	MD3831-D32-V3-T
	64MB	MD3331-D64-V3-T
Mobile DiskOnChip Plus	16MB	MD3831-D16-V3Q18-T
	32MB	MD3331-D32-V3Q18-T
	64MB	MD3331-D64-V3-T

3.2 DiskOnChip Accessories

Ordering information for DiskOnChip accessories that can be used with the BGA-to-32-pin DIP adapter is listed in Table 3.

Table 3: Ordering Information for Compatible DiskOnChip Accessories

Accessory	Product Number
ISA Bus EVB for 3V DIP	DIP-ISA-V3-EVB
ISA Bus EVB for 5V DIP	DIP-ISA-V5-EVB
PCI EVB	PCI-EVB-V1
GANG Programmer, Revision C	DOC-DIP-GANG

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