

16Z016_IDE – IDE UDMA Controller IP Core

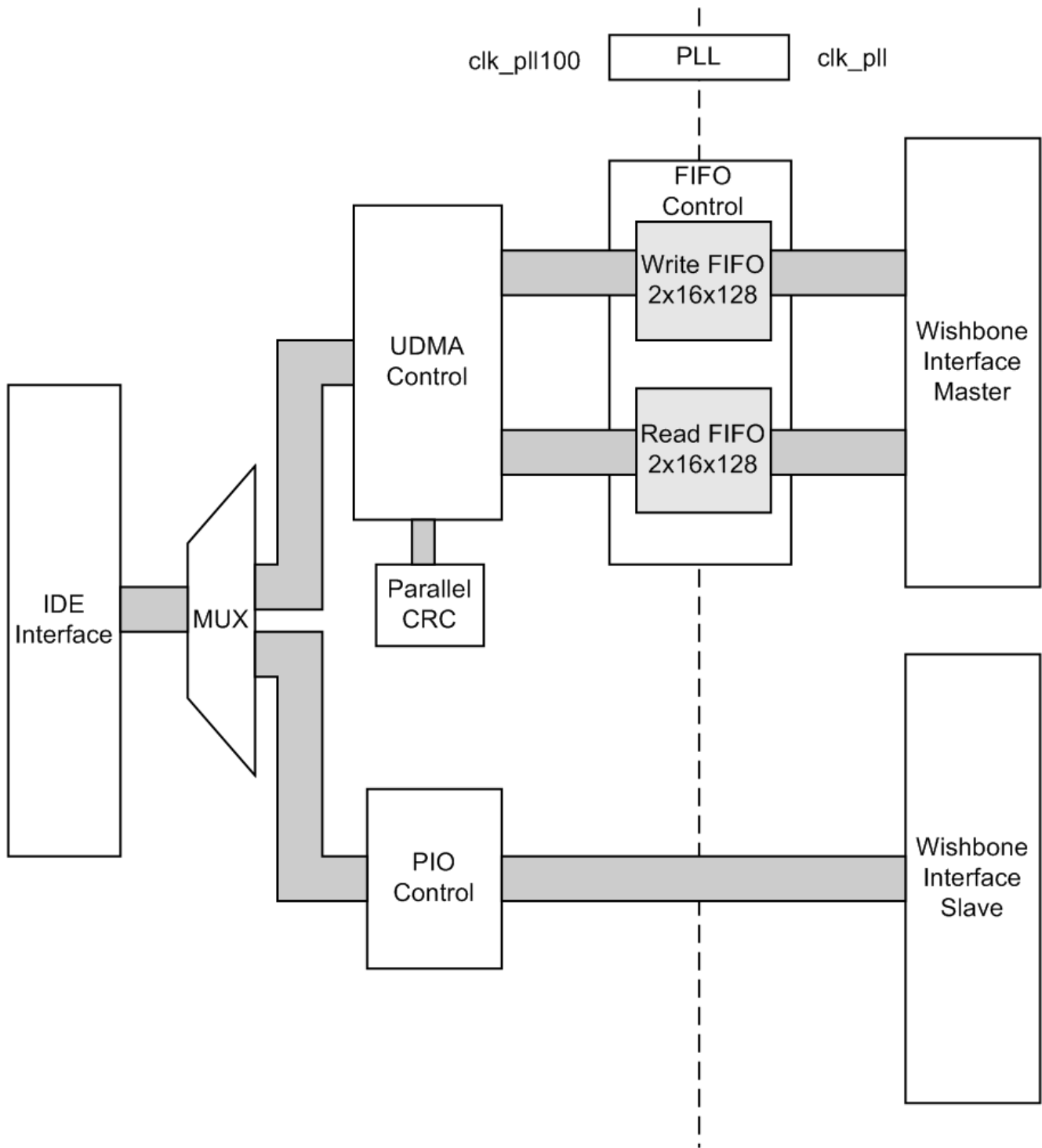
- **FPGA IP Core**
- **Supports ATA/ATAPI-6 standard**
- **PIO Mode 0**
- **UDMA Mode 5 (UDMA100)**
- **Wishbone bus interface**

The IDE UDMA Controller is an IDE controller implementation supporting ATA/ATAPI-6 standard. IDE controllers are used for data transfer between CPUs and hard disks. There are two kinds of data transfer: the PIO mode is used for command and data transfer and the UDMA mode for fast data transfer up to 100 MB/s. MEN IP cores are described in standard VHDL language and the standard Wishbone bus is used as the system interface.



By using IP cores, application-specific functions can be performed flexibly and individually in the FPGA on a growing range of MEN CPU boards. These IP cores can be assembled from the MEN function library and reconfigured, combined with IP cores from other providers or even completely redeveloped as required. The FPGA behaves just like a standard PCI component. The FPGA functions are loaded by software when the system is booted and are available in less than 1 s. On PowerPC® platforms the FPGA can be dynamically updated during operation. On Pentium® platforms FPGA updates are also possible in the boot Flash during operation and are then available once the system is rebooted.

Diagram



Technical Data

| | |
|-----------------------------|--|
| Size | <ul style="list-style-type: none"> ■ Logic elements (Altera® Cyclone® device family): 1500 typ. ■ Pin count: 28 ■ RAM: 4x M4K (Cyclone® I and II) or 4x M9K (Cyclone® III) |
| System-Bus Interface | <ul style="list-style-type: none"> ■ Wishbone bus interface compliant with Wishbone Specification B.3 ■ 32-bit data transfer, 33/66MHz bus frequency ■ Supported Wishbone bus cycles <ul style="list-style-type: none"> □ Single read/write (master/slave) □ Burst read/write (master) |
| IDE Functionality | <ul style="list-style-type: none"> ■ PIO mode 0 ■ UDMA mode 4 (UDMA66) (16Z016-01 only!) ■ UDMA mode 5 (UDMA100) ■ ATA/ATAPI-6 standard support |

Ordering Information

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| Documentation | 22Z016-00 | 16Z016_IDE Reference Manual |
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