DATABOOK

1991 DEVICES

Systems Logic

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Storage

Communications

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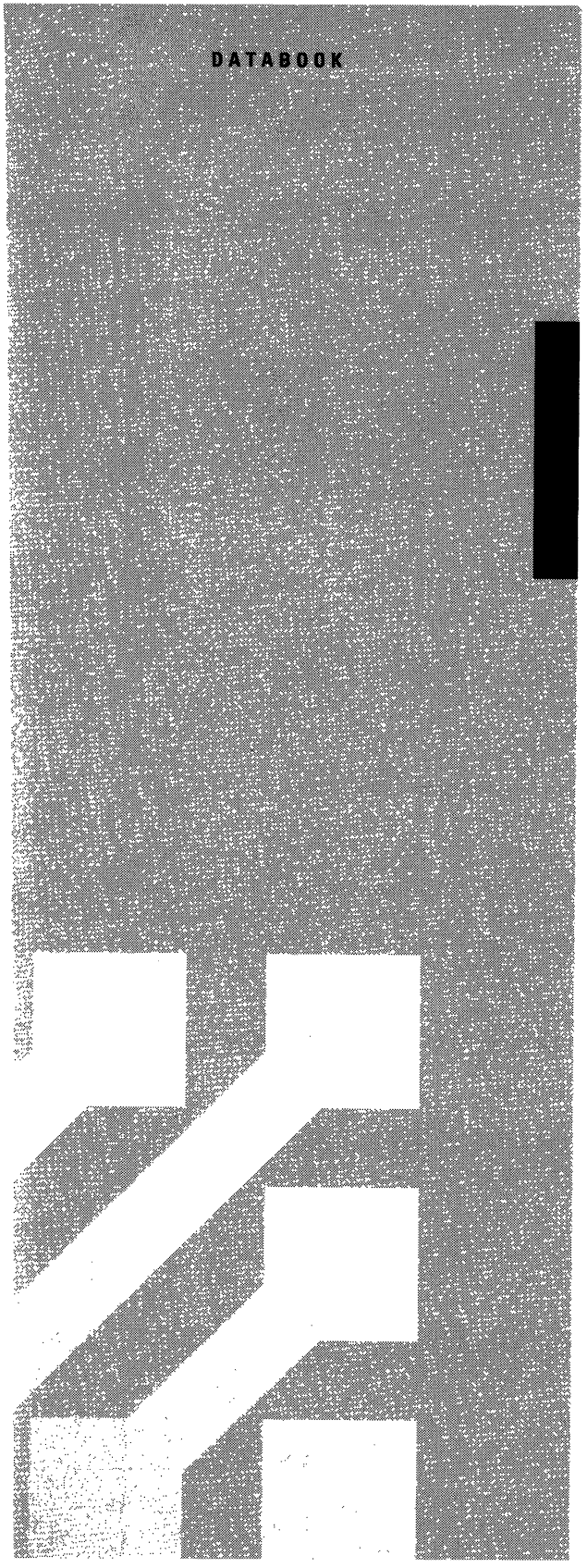

WESTERN DIGITAL

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INTERARCHITECTURE CROSS REFERENCE ACCORDING TO SYSTEM PLATFORM

Device **Section Number**

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Data Sheet and Device Status Definitions

Status in Data Sheet Footer	Device Status	Definition
ADVANCED INFORMATION AND DATE	Initial Production	This data sheet contains information prior to device characterization. Western Digital Corporation reserves the right to change specifications at any time without notice in order to improve overall design and operation.
DATE	Full Production	This data sheet contains final specifications. The information has been updated and published as of the date indicated. Western Digital Corporation reserves the right to change specifications at any time without notice in order to improve overall design and operation.

Western Digital's Interarchitecture

Western Digital designs and manufactures a full range of VLSI (very large-scale integration) products that control the fundamental functions of computing: storage control, video, data communications, and systems logic. This diverse technical expertise enables Western Digital to design all components from a systems perspective. And through the Interarchitecture™ products that result from that design process, the company can provide a level of compatibility and performance that other companies can't.

Interarchitecture is not limited to devices only, but extends to drives as well. Western Digital employs this process extensively in designing drives; the controller and drive electronics are designed together to produce an intelligent drive of incomparable performance and reliability. And when, for example, Western Digital's Caviar or Piranha drives are paired with Western Digital's 7600 core logic, the result is even greater performance characteristics and guaranteed compatibility.

Interarchitecture is the process whereby devices are developed "inter"dependently, that is the designer of the core logic, for example, works with the designer of the video device. This interaction produces device solutions that work together better, resulting in matched chip sets with unmatched performance.

The Advantages Of Interarchitecture

Through its Interarchitecture products -- complete platform solutions designed in concert exclusively by Western Digital -- you can realize a number of significant advantages:

- ***Accelerated Time To Market***
  Using Western Digital's Interarchitecture products will reduce your research and design cycle, allowing you to get your product to market faster.

- ***Cost-Effective Solutions***
  The inherent qualities of Western Digital's Interarchitecture products will enable you to design and manufacture your products more cost effectively. Your designers can increase system functionality while simplifying system integration, and by providing full functionality in fewer chips, these solutions will reduce manufacturing, test and maintenance costs.

- ***Increased Design And System Flexibility***
  Interarchitecture products give your systems designers more platform and application choices and more ways to solve specific design problems. Using the same set of chips, designers can upgrade or downgrade their systems utilizing different processors (e.g.: 80286 or 80386SX) and implement a variety of systems software (UNIX, OS/2, DOS).

- ***Optimized Performance***
  Western Digital designs its Interarchitecture chips together, that is, the core logic was developed with the video, etc. Accordingly, when all these pieces are implemented as a total solution, speed enhancements for certain applications can be achieved.

- ***Improved Reliability And Compatibility***
  The process of co-designing across an entire product line increases overall product reliability.

Western Digital guarantees the compatibility of one of its devices to another, and when used in conjunction, Interarchitecture products can help ensure overall system compatibility.

Interarchitecture Solutions For Desktop And Laptop Systems

WD7600 System Chipset for 80286 or 80386SX desktop systems

Components:

WD76C10 single-chip core logic

- memory control, CPU control, DMA interrupts, buffers
- AT-bus control up to 25 MHz
- 1.25 micron CMOS design
- 80286 or 80386SX interface

WD76C20 single-chip storage

- floppy control, IDE control, real-time clock, CMOS RAM, chip select decodes
- 1.25 micron CMOS design
- data transfer in DMA or non-DMA modes
- chip select logic generation

WD76C30 single-chip data communications

- serial/parallel I/O control, programmable coprocessor clock, floppy frequency generator, keyboard clock, baud rate generator, AT-bus clock, interrupt multiplexor
- 1.25 micron CMOS design
- FIFO port operation

WD90C11 (PVGA1C) single chip video

- fully integrated VGA video control
- optional video RAMDAC and video clock
- 8514/A video option

WD90C61 -- video graphics array clock (PCLK2)

*Western Digital Interachitecture Intelligent Drives**

Caviar™ Drives:

- one-inch, 42- and 85-Mbyte formatted capacities, 18 milliseconds
- CacheFlow™, adaptive segmented cache
- Automatic head parking, advanced defect management and embedded sector servo control

Piranha™ Drives:

- 3.5-inch, 106- and 212-Mbyte formatted capacities, 16 milliseconds
- CacheFlow, adaptive segmented cache
- Automatic head parking, advanced defect management and embedded sector servo control

* For more information on Western Digital's intelligent drives, call 1-800-832-4778 in the US, or 1-800-448-8470 in Canada.

WD7600LP System Chipset for 80286 or 80386SX portable systems

Components:

WD76C10LP single-chip core logic

- memory control, CPU control, DMA interrupts, buffers
- special sleep, speed-up modes
- extensive set of power management features
- AT-bus control up to 12.5 MHz

WD76C20 single-chip storage

- floppy control, IDE control, real-time clock, CMOS RAM, chip select decodes
- 1.25 micron CMOS design
- data transfer in DMA or non-DMA
- chip select logic generation

WD76C30 single-chip data communications

- serial/parallel I/O control, programmable coprocessor clock, floppy frequency generator, keyboard clock, baud rate generator, AT-bus clock, interrupt multiplexor
- 1.25 micron CMOS design
- FIFO port operation

WD90C20 (PVGA1F) single-chip video

- full VGA video support with laptop RAMDAC
- optional video clock
- supports 32-color, gray-scale palette

WD90C61 -- video graphics array clock (PCLK2)

*Western Digital Interarchitecture Intelligent Drives**

AB130 Piranha Drive:

- 2.5-inch, 0.6 inches high
- 31.5 Mbyte formatted capacity
- 19 milliseconds average seek time
- CacheFlow multi-segmented, adaptive cache
- 6 power-management modes

AH260 Hornet Drive:

- 2.5-inch, 0.75 inches high
- 62.9 Mbyte formatted capacity
- 19 milliseconds average seek time
- CacheFlow multi-segmented, adaptive cache
- 6 power-management modes

* For more information on Western Digital's intelligent drives, call 1-800-832-4778 in the US, or 1-800-448-8470 in Canada.

Western Digital Quality
Customer Satisfaction Through Relentless Improvement

From its manufacturing, assembly and test facilities throughout the world, Western Digital is committed to producing the highest quality semiconductor, board-level and intelligent disk drive products in the world.

The company's goal is to continually improve the reliability of those products through the implementation of a variety of quality programs, utilization of the most advanced evaluation and analysis tools and the execution of an extensive set of qualification and testing procedures.

Western Digital can deliver unique customer advantages due to the vertically integrated structure of the company, whereby it designs, develops, manufactures, tests and markets all of its products. Accordingly, Western Digital can ensure that the quality and reliability of its designs are translated into products of similar quality for the end user.

Quality starts with employees at Western Digital. Employees undergo thorough training to ensure the most technically-advanced workforce, and those employees then work closely with upper management through customer satisfaction committees, steering committees and executive partnerships to solve problems.

The company then implements its "total quality management" program for every chip, board and drive product. That program begins with a complete quality evaluation of the materials used to make products. Materials must pass a full complement of inspections and audits, and vendors are constantly measured and re-qualified.

An exhaustive product evaluation program is then executed, encompassing a complete battery of characterization and functionality tests from engineering prototypes through unlimited production. An additional set of tests are conducted at the manufacturing phase, with special attention paid to the environmental factors that can adversely affect product quality.

Western Digital's quality process doesn't end after a product is manufactured. The company constantly works to reduce cycle time; it is continually evaluating its certified vendors, while achieving certification by its own customers; and it is always striving for superior customer service and technical support through programs such as its "customer quality alert" program, through which customer quality issues are addressed in less than 48 hours.

From raw materials to finished product, Western Digital is dedicated to quality and to guaranteeing that the result of its design and manufacturing efforts is the most reliable product attainable.