## PowerPC Microprocessor Family: An Overview (3/94)

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TOPIC --------------------------------------------------------------

This article gives an overview of the PowerPC microprocessor family.

DISCUSSION ---------------------------------------------------------

Apple, IBM, and Motorola are working on four versions of the PowerPC
microprocessor simultaneously. Each version is designed to meet the needs
of a different segment of the marketplace.

PowerPC 601 (MPC601)
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The first microprocessor in the family is the PowerPC 601. The 601 will be
in production in early 1994 and will be used in the initial midrange and
high-end Macintosh systems.

PowerPC 601 features:

• 32-bit implementation of the PowerPC architecture
• 32-bit address bus
• 64-bit data bus
• Processor bus based on 88110 bus
• Available in two versions: a 66 MHz version and a 80 MHz version.

PowerPC 603 (MPC603)
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The PowerPC 603 microprocessor will offer performance similar to the 601
in an even lower-power, lower-cost design. These features will allow Apple
to use the 603 in high-volume desktop Macintosh computers and PowerBook
models.

PowerPC 603 features:

• 32-bit implementation of the PowerPC architecture
• 32-bit address bus
• 64-bit data bus
• Processor bus based on 88110 bus
• Low power consumption
• Fully static logic with power-saving features

- 3.3 volt design
- Requires only two watts of power during full operation, one watt when only in active use.
- Available in two versions: a 66 MHz version and a 80 MHz version.

PowerPC 604 (MPC604)
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The PowerPC 604 microprocessor will eventually replace the 601, allowing Apple to offer even better performance in midrange and high-end Macintosh computers.

PowerPC 604 features:

- 32-bit address bus
- 64-bit data bus
- Bigger pipeline
- Higher parallelism
- Advanced branching techniques for higher performance

PowerPC 620 (MPC620)
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The PowerPC 620 microprocessor will be a high-end product offering premium performance and a full 64-bit architecture. It is being designed primarily for high-performance workstations and servers.

PowerPC 620 features:

- 32-bit address bus
- 64-bit data bus
- Multiple levels of parallelism
- Will use a different processor bus

Article Change History:
11 March 1994 - Reclassified article for Power Macintosh intro.
7 December 1993 - Added additional 601, 603 version and power consumption
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