

Preface

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Editor

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This Q4'97 issue of the *Intel Technology Journal* focuses on innovations in memory chips and on better-yielding manufacturing techniques.

The first two papers are written by the co-inventors of Intel StrataFlash™ memory. Intel's engineers produced the first flash memory product that could store multiple bits of digital information in one memory cell. Specifically, they gave us "2x the bits in 1x the space," and at a much lower cost.

The road to success for StrataFlash memory was not without its trials and tribulations. Staffing and development resources were minimal, and at one time, the project was even shut down for a year. In the end, however, the engineers triumphed and proved that StrataFlash memory worked and could be produced reliably. It can be used in a variety of different applications: memory cards, resident code and file storage, digital imaging, and audio storage mediums. It is one of Intel's strategic assets.

The third and fourth papers in this issue describe redundancy, the technique of using spare array elements in SRAM memory to replace elements that have tested defective. A mathematical model for redundancy is described in the third paper. The second-level cache packaged in the Pentium®Pro processor is one of the first devices at Intel to use redundancy, and its usage is outlined in the fourth paper in this issue. The fifth paper introduces a new PROM element compatible with CMOS logic processes.