# Intel's Competitors Stuck in Third Tier

## Taking On Intel's Design and Manufacturing Is Only the Start

Ever since the debut of the IBM PC 15 years ago, Intel has been the dominant force in microprocessors for personal computers. During this time, competitors have tried a variety of strategies to capture some of Intel's market share, with limited success. Today, Intel's position appears stronger than ever, and its challengers—whether x86 or RISC—are increasingly being forced to seek customers among third-tier PC makers to survive.

The challenges in competing with Intel are many. Intel's vast capital resources, the fruit of many years of highly profitable, high-volume microprocessor sales, have given the company a big lead both in the size and number of its design teams and the scale and sophistication of its manufacturing capability. Even if the formidable design and manufacturing hurdles can be overcome, however, Intel's competitors face another challenge: Intel's dominant position has given the company enormous clout that it can—and apparently does—use to engender grave doubts in the mind of any PC executive flirting with the idea of using competitive chips.

Consider the difficulty Cyrix and IBM have getting design wins for the 6x86. This chip delivers better performance than the fastest Pentiums on typical Windows applications, giving Cyrix—along with its foundry and marketing partners, IBM and SGS-Thomson—a strong product offering (see 100801.PDF). Yet Acer is Cyrix's only design win among leading PC makers.

There are some technical reasons that have contributed to Cyrix's difficulty in signing up big-name customers. The 6x86 is power-hungry, requiring substantially more cooling than Intel's Pentium, and its performance on floating-point code falls short. But the biggest challenge Cyrix and its partners face is Intel's clout with its customers—and the fear these customers have about how Intel may respond.

We have heard no first-hand accounts of Intel's conversations with its large customers. But sources at several of Intel's competitors describe a consistent pattern. When a PC maker shows serious interest in a non-Intel processor, the competitors say, a visit from Intel's top executives soon follows. They explain that using a non-Intel processor could affect the relationship between Intel and the PC maker, perhaps making Intel more cautious about revealing future product roadmaps or providing early silicon samples. The message that many PC makers seem to get—although it is presumably never stated—is the availability of leading-edge Intel processors might also be affected.

Intel is well aware, of course, of its dominant position and the obligations that accompany this position if the company is to stay clear of antitrust-law violations. Intel surely has top-notch legal advice and would not carelessly endanger its position with strong-arm tactics. But the irony is there is no need for Intel to use such tactics—so many people in the industry assume that Intel would find ways to retaliate against companies using competitive processors that no threats are necessary.

Given the widely held fear that using a competitive processor could impact a PC maker's ability to get leading-edge processors from Intel, the competitors' lack of a full product line limits the prospects for the chips they do have. Cyrix—and some day AMD—might offer a good desktop solution, but what about the portable line, where power consumption is key? What about servers, where Pentium Pro with its multiprocessor-ready bus is needed? No competitor can match Intel's product spectrum today. It is possible that AMD will have a good notebook processor in 1997, but it is unlikely that it will have chips with multiprocessor capabilities matching Intel's P6 family.

The view PC makers take of the alternatives varies, but they can be divided into three broad categories. The Intel Loyalists, such as Dell, Gateway, and Packard-Bell, are unlikely to seriously consider alternative processors anytime soon. The best long-term prospects for Intel's competitors are the Big Independents—companies such as Compaq, Acer, AST, and even HP, which are confident enough to risk Intel's ire and want to reduce Intel's influence over their product directions. These companies also seek to use their R&D efforts to differentiate their products from those of the Intel Loyalists; one approach is to use some non-Intel processors. So far, these companies have used non-Intel processors mostly in low-end products, but once high-speed 6x86 chips are available in high volume, this could change. Compaq has retreated from alternative processors for now, but this change appears to have been driven more by the lack of volume availability than by any newfound love for Intel.

In the meantime, most of the volume for Intel's competitors will come from the Countless Unknowns—the great masses of PC makers whose names are largely unknown but which collectively ship a significant fraction of the industry's computers. While unglamorous, this market is big enough for the alternative processor makers to succeed on a modest scale while they continue preparing for future assaults on the top tier. Ⓜ

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