

# Socket Strategy Challenging for AMD

*Intel Will Offer Renewed Competition in 1999*



Although AMD has struggled (and for the most part failed) to earn a profit over the past several quarters, some good signs have emerged recently. We estimate the company's share of the PC processor market rose to 12% in 3Q98, and it is particularly strong in the U.S. retail market, capturing 35% in June (according to ZD Market Intelligence). While AMD may be profitable for the rest of the year, maintaining growth and profitability in 1999 will be challenging.

The company's growing market share is due in part to its internal improvements. The K6-2 is a strong product that matches all of Intel's high-volume speed grades and even includes 3D acceleration features (see MPR 6/1/98, p. 18) that Intel's chips lack. Perhaps more important, the company appears to have overcome the manufacturing problems that kept it from shipping enough parts in 1997 and early 1998. After some initial problems, the new 0.25-micron process is ramping well and has completely replaced the older process at the company's flagship Fab 25.

AMD's gains, however, should also be viewed within the context of PC market cycles. When Intel began pulling out of the 486 market (some say prematurely) in 1995, AMD's market share surged to 17% as it became the number-one supplier of 486 processors. During 1996, however, the company was unable to keep PC makers interested in 486 motherboards. As a result, AMD's market share plummeted to 9% by 4Q96. This crash was particularly severe due to the vendor's lateness in delivering a Pentium-class product.

If history repeats itself, AMD should be nearing the top of its cycle. Intel's withdrawal from the Pentium market is nearly complete, and PC makers are turning to the K6 to fill their Socket 7 motherboards. But in the past, PC makers have tended to follow Intel to new sockets, most lagging Intel by no more than a year. This window set a limit on AMD's ability sell into the older socket.

This cycle, however, could be different. The PC market is much larger than three years ago; even at 10% to 15% of the market, AMD today represents enough units to keep chip-set makers and motherboard vendors interested. Intel is also helping in this regard: by short-sightedly walling off Slot 1, it has given the alternative chip-set makers little choice but to support AMD's plans.

PC makers have also changed. In the past, the market was so small and uniform that they tended to use a single motherboard for all systems. This discouraged support of alternative sockets. Today, many PC makers have separate

motherboards for business and consumer systems, and for mainstream and low-cost systems. The new model allows the use of Socket 7 for low-cost consumer systems, for example, without changing other platforms. Intel itself is recommending that OEMs use Slot 1 for mainstream systems and the new Mendocino socket in low-cost systems next year.

These changes will keep the Socket 7 market from disappearing as quickly as in previous processor transitions. We project continued sales of Socket 7 processors well into the year 2000, although the total shipments of these chips is likely to gradually decline during that time. The shape of this decline poses challenges for AMD.

That vendor now supplies about 75% of all Socket 7 processors, with the remaining share held by cutthroats like Cyrix and IDT, which have recently been playing limbo with Socket 7 prices. (The current "winner" is IDT with its \$30 WinChip-180.) AMD has mainly stayed above this fray, but to increase its Socket 7 share, it would have to cut prices (and margins) to compete with these smaller vendors.

The alternative is to try to reverse the downward trend of Socket 7 sales by getting OEMs that have already converted to Slot 1 to go back to Socket 7. Most of these systems are entrenched Intel design wins; to make headway in this difficult area, AMD needs both a strong product offering and some weakness on Intel's part.

Intel isn't planning to cooperate. As PC prices dropped, AMD benefited from Intel's slow response time. Recent indications, however, are that PC prices may be firming, and Intel has finally responded with a strategy. Celeron brought Intel into sub-\$800 PCs, and we expect the combination of the socketed Mendocino and the integrated Whitney chip set (see MPR 8/24/98, p. 3) will enable Intel-branded sub-\$600 PCs by mid-1999. This combination will not leave significant market segments for AMD to dominate.

AMD continues to exploit a key Intel weakness: the animosity many PC makers have toward that company's monopolistic tactics. As long as OEMs want a competitive CPU market, AMD has a good shot. Although its reliance on Socket 7 poses challenges, the company's success will ultimately be determined by the performance of its processors. With a strong product portfolio, AMD should be able to maintain its share in 1999 or even see some growth. Sizable gains, however, will be more difficult to come by without aggressive pricing that would jeopardize profitability. ■

*Linley Gvening*