



# DOUBLING UP:

**The Mac286 board represents an ambitious step toward resolution of the conflict between IBM's and Apple's separate operating environments.**

**COVER STORY BILL O'BRIEN**

Over the years, there have been periodic attempts to resolve the conflict between Apple's and IBM's separate operating environments. Quadram offered an Apple II simulation on a plug-in board, the QuadLink. Dayna Communications' MacCharlie added an IBM clone to the Macintosh, with the Mac acting as a terminal to DOS operation. Software solutions have included several levels and versions of file transfer utilities. All of these attempts have been bold, but none have been so ambitious as AST's Mac286 for the Macintosh II.

Occupying a brace of adjacent expansion slots, the Mac286 processor board and 640K RAM board are a simple plug-in addition to the Mac II. There are no tedious cables to string across the back, side, or bottom; the boards come with their own cables bridging the connections between brains and memory. The most tiring task is stringing the disk drive cable from the rear of the processor board to the floppy disk drive. All other ports—video, serial, and keyboard—are shared Macintosh resources. Hard disk space is claimed by cre-



## FACT FILE

**Mac286**  
 AST Research Inc.  
 2121 Alton Ave.  
 Irvine, CA 92714  
 (714) 863-1333  
**List Price:** \$1,499  
**Requires:** Two expansion slots.  
**In Short:** An expensive and problematic solution to Mac-PC compatibility.

CIRCLE 664 ON READER SERVICE CARD

AT—no mean trick for a coprocessor running in a 16-MHz environment. Unfortunately, the video processing looks as if it was borrowed from a Commodore PET 2001 of the late seventies. Scrolling is as flicker-full as any you could imagine, and slow at best. It's a consequence of attempting to simulate a character environment in a graphics-oriented world.

In fact, emulating an IBM on a Macintosh is full of pitfalls. While you get full control of the Mac's mouse, it is valid only

processor is running as a window within a Macintosh software package to supply all of the emulations.

**COMPATIBILITY COSTS** And you will be stung by the price. The Mac286 retails at \$1,499. Just the research and development necessary to put an IBM AT into a Macintosh (not to mention the licensing fees paid to Phoenix Technologies to ensure that the resulting product would be compatible) can justify that price tag. But you can buy a monochrome AT clone for \$300 more or an EGA clone for \$800 more. With the Mac286 boards in your Mac, you've effectively purchased a slotless AT. If I'm not mistaken, one of the chief complaints about the Macintosh was that it had no slots, no expansion capability, no growth.

So why bother? Desk space is the most pressing reason. One computer on your desk is enough, especially now that Apple has enlarged the Mac. Two are tenable only if you're intent on building a fortress around yourself. Justification is another reason. A \$2,000 expense for a CGA

# AST PUTS DOS ON THE MAC

ating a Mac286 file on the Macintosh hard disk; you reserve as many megabytes as you are willing to lose from the Mac. Normal video emulations include both monochrome and Hercules graphics, but if you've invested in a color interface board and monitor for the Mac, Mac286 will also do its best to resemble a CGA system.

**BENCHMARK TESTS** PC Labs processor benchmark tests show that the Mac286 has all the speed of an 8-MHz

for accessing the Mac286 menu bar at the top of the screen. There is an option to switch to an emulated Microsoft mouse, but even the Mac286 documentation suggests that such an imitation is in form only and almost useless indeed. The CGA display is barely half as deep as the standard Mac II display, and that's a small area in which to cram 24 lines of text. You fare better with monochrome and Hercules emulation. Each almost fills the screen—but not quite. After all, the 80286 micro-

80286 clone is a hefty price to pay if you have only an occasional use for it. You'd probably feel better pocketing the \$500 savings the Mac286 offers, knowing that you had both Mac and IBM compatibilities. And as the Mac and the IBM draw closer together in function, feature, and form, you may be glad you have that compatibility. 

*Bill O'Brien is a project leader in PC Labs.*

Photograph: Roberto Brosnan