

Electronics Letter

Benjamin M. Rosen

79-13

October 19, 1979

AND NOW FOR THE GOOD NEWS -- 1980 16K RAM DEMAND

Volcker or no, there is at least one sector of the economy which will not be affected by the Federal Reserve's new actions to slow the economy. A fresh look at our old friend, the 16K RAM, reveals that the tight supply/demand situation existing in 1979 may actually get worse in 1980. Previously, we had itemized seven reasons why the 1979 squeeze in 16K RAMs had begun to occur: Intel's 16K RAM deemphasis, TI's yield problems, delays in 64K RAM production, price-elastic demand, demise of the charge-coupled device, IBM's merchant market purchases, and rocketing mainframe and personal computer demands (Electronics Letter, August 31).

But what about 1980? Clearly, every 16K RAM manufacturer, both domestic and foreign, is adding capacity as fast as it can take delivery of equipment (which is not all that fast). And, if all goes well in this regard, we should see some dramatic improvements in production rates next year by all the leading vendors. Mostek, for instance, which originally had planned to ship 13-million devices this year, will instead ship somewhat over 15-million. This augmented production figure, in turn, is likely to double in 1980 to the 30-million device level. As another example, Motorola, which has dramatically got its act together in MOS memory, could see this year's production of 5½-million 16K RAMs almost triple to 15-million next year. Other manufacturers are likely to show substantial, if perhaps not as electric, percentage gains next year. Moreover, new entrants, such as Advanced Micro Devices, will be entering the fray in 1980. Yet this is not enough.

Contents

1980 16K RAM DEMAND SOARS	1
SEPTEMBER SEMICONDUCTOR DATA	4
IBM, INTEL, NTT, AND THE ISSCC	6
PRICING TRENDS (Continued)	8
PERSONAL COMPUTERS	8
DIRECT SATELLITE BROADCASTING	10
EARNINGS ESTIMATE SCORECARD	11
ELECTRONIC STOCK PERFORMANCE	11
UNRAVELING THE VOLCKER SECRET	15

and-white monitor) to \$400 (for a color monitor)." Thus it seems that the long-awaited TI 99/3 could be forthcoming sometime next year, with a modulator but without a color monitor, at a retail price point of \$750. If so, it should have a salutary impact on consumer acceptance of a computer in the home.

Japan seems to be getting its act together regarding its personal computer entries. Subsequent to showing a few Japanese models at the 1978 summer Consumer Electronics Show, things have been relatively quiet, except for a few recent advertisements for some no-name Japanese computers. We understand from mass merchandisers, however, that the major Japanese companies are targeting the second half of 1980 for their major thrust into the United States personal computer market. As one buyer describes it, "Six months ago the manuals were written in Japanese; today they are in colloquial English." Another source, a personal computer manufacturer, allows as to how the Nippon Electric personal computer is a very impressive machine -- not revolutionary, but a good machine that seems to be the class of the prospective Japanese entries.

Very exciting things are happening in personal computer software. As we indicated earlier, Visicalc seemed to us to be a software breakthrough (Electronics Letter, July 11). This language-transparent system was, in effect, an electronic spreadsheet, one which allows the professional to create a wide variety of programs without resorting to traditional programming. It's all done on the CRT as it would be done conventionally on paper. We said then we thought it was the most important thing we had seen to date in personal computer software. Since then, we have become aware of some other major contributions toward making the personal computer truly useful. The most impressive we have seen are the word processing packages, data base management systems, and high-level statistical packages. The word processing software actually converts a personal computer (with a daisy-wheel printer) into a Vydec-type word processor. The data base management systems permits filing, sorting, and retrieval of large bodies of information. And finally, the most impressive statistical package we have seen so far in Tiny Troll, a multiple linear regression package from Micro Finance Systems. Despite its seemingly redundant name (short midget? ... small dwarf? ...), Tiny Troll performs the kind of statistical calculations that one normally sees only on large computers (tall giants?). For instance, Tiny Troll routinely will regress up to nine independent variables and one dependent variable. Moreover, it plots them in high resolution graphics on the screen for visual inspection of their correlation (or lack of). Incidentally, both Visicalc and Tiny Troll are only available on the Apple II computer now, while DBMS and word processing software are available on all popular systems.

Two personal computer companies with June fiscal years revealed for the first time in their recently released annual reports the