2.0 THE U.S. MARKET FOR DATA PROCESSING HARDWARE AND SOFTWARE PRODUCTS

The U.S. computer industry is now recognized as a major force and indicator in the U.S. economy. During the last ten years growth in the industry has been consistent in sales, employment and production. The average growth rate in the industry historically has been 18 percent per annum with the exception of 1981–1982 when the rate declined to 11.3 percent. Industry analysts predict that the expansion rate will resume at 17–18 percent per annum and continue at this level into the 1990's. The computer industry has been a major contributor in increasing the U.S. annual trade surplus.

Total U.S. industry shipments* for computing equipment, including both hardware and software, were $34 billion in 1982 and are expected to increase to $40 billion in 1983. These figures can be compared with the 1981 total of $30.5 billion, (see Table 2.0). The U.S. supplies approximately 60 percent of the world's total computer products in both value and number of units. This does not include the substantial production contribution made by U.S. subsidiaries operating outside the U.S. Current world production of computers is $64 billion and industry analysts expect this figure to increase to $200 billion by 1990.

Although U.S. production is expected to remain strong, U.S. manufacturers will experience growing competition reflecting changes in current production and sales patterns. These changes include lower growth rates in certain products, for example, mainframe computers, and radically declining unit prices in the new and growing markets for standardized products such as, micro-computing systems, disk storage, and software.

* Computer hardware is classified under U.S. Standard Industrial Classification (SIC) 3573: Software of all types under (SIC) 7372

Table 2.0
Computing Equipment:
Trends and Projections 1980-83

	1980	1981	1982	1983
Value of shipments*	26,498	30,596	34,060	40,190
Total employment (000).....	305	335	351	383
Production workers (000).....	135	141	148	160
Capital expenditures* ..	1,738	—	—	—

* $million
Source: Bureau of the Census and Bureau of Industrial Economics

Consumption of computer products in the U.S. in 1982 was $27.2 billion. This figure consists of total U.S. shipments less exports ($8.9 billion) plus imports ($2.1 billion). Industry sources estimate that this consisted of $20.0 billion of hardware and computing equipment and $7.2 billion of assorted software.

2.1 MARKET SEGMENTS IN THE COMPUTER INDUSTRY

Hardware:

Computer products and their market share change rapidly in the industry, for example, the emergence of the desktop computer over the last three years. The U.S. produced an estimated 1.2 million desktop computers during 1982 for an estimated $2.1 billion. In 1982, sales of desktop computers, associated peripherals and 32 bit minicomputers continued to grow while the demand for mainframe computers and 16 bit minicomputers, together with their peripheral equipment for OEMs, dropped considerably. The introduction of lower priced micro and minicomputers with greater computing capacity is a main factor in the swing away from traditional mainframe computers and has opened new sales directions for many companies which traditionally concentrated on producing more expensive computing equipment.

The average price for home desktop computers remains at around $300 but commercial desktops suitable for home/business and commercial use range in price from $1,000 to $10,000. It is generally understood that a high quality microcomputer for small business use will cost around $3,500. This position may change radically in the next 6 to 12 months with the introduction of low price alternatives from such companies as IBM and Coleco. The projected increase in market share for desktop computers is shown in Table 2.1. It is expected that sales in this category will increase by 200 percent by 1986. Heavy price cutting, volume discounting and consumer rebates, together with the inclusion of free application software packages, are now widespread in this portion of the industry.

Other hardware products which featured strongly during 1982 were 8-inch flexible (floppy) disk drives and "half height" (slim line) 8-inch drives which have increased storage space while making it possible to reduce the case size of desktop computers. The 5.25-inch disk drive has also increased in popularity and, as is the case with most peripherals, increasing competition both in the U.S. and from Japan has resulted in major price reductions which in turn have forced many smaller manufacturers out of production. For example, prices for 5.25-inch drives in large quantities for OEMs had dropped to as low as $50 per unit in 1982.

The demand for rigid (Winchester) disk drives in the 8 and 5.25-inch sizes remained relatively strong during 1982. Competition became relatively fierce with OEMs purchasing large quantity orders at between $600 to $700 per drive compared with the average price of $1,000 in 1981. Industry sources estimate that approximately half a million units were