## GLOBAL ENTERPRISE

The Sharp Corporation is a Japanese-based company that manufactures an enormous range of products, from transistors and refrigerators to computers and industrial robots. International sales in 1983, the year it entered the UK home computer market, amounted to nearly £2 billion.

The Sharp Corporation has always been party to major technological innovation. But its first successful product was an extremely humble item - the 'Ever Sharp' propelling pencil. Its creator, Tokuji Havakawa, set up Sharp in 1915 to manufacture his invention; and the company expanded steadily in succeeding years. In 1925 it moved into electronics with a crystal radio set; and entry into the world's consumer electronics markets came in the post-war years when it began producing television sets and other domestic appliances. In the mid-1960s the company intervened in the business machinery market with a series of desk-top calculators. Today it is a huge multinational corporation, subdivided into six manufacturing groups, with 34 production plants in 30 countries outside Japan.

Industrial Instruments Group

Technological subjects researched at Sharp's Engineering Centre are transferred to the IIG plant (shown here) at Yamato-Koriyama-shi, Nara, Japan, where the Corporation's products (including calculators and personal computers) are designed

The first Sharp computer marketed in the UK was the MZ80K, which was launched in 1981. The following year, the company added the MZ380A and MZ380B to its range. Although these computers were marketed as business machines, they also found favour with home micro users. Each model comes equipped with a built-in monitor and cassette drives. Originally, these



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computers were marketed as 'clean machines', emphasising their lack of a resident language in ROM. The advantage of this was that a variety of languages, including CP/M, could be loaded onboard from cassette.

Sharp began selling a full range of business and home computers in the UK at the beginning of 1983, when the company's list of products was extended to include the MZ-3541 business machine and the PC-1500 pocket computer. The success of the latter led to the marketing of the PC-1251 pocket computer.

The company entered the home computer market with the launch of the Sharp MZ-711. This is the European version of the Japanese MZ-700 series, and the enormous Japanese character set of the original has allowed room for extra graphics facilities on the European model. The machine has a data recorder fitted as standard, and space is included for an optional printer/plotter.

In May 1984, the company released the PC-1500A, an upgrade of the PC-1500. The new model is fitted with 8.9 Kbytes of RAM, which can be expanded up to 24 Kbytes. In the autumn of 1984 the company plans to launch the PC-1350 pocket machine with a four-line display and graphics capability. Sharp Corporation also intends to introduce the Sharpwriter package, which is a marriage of the Sharp ZX-401 electric typewriter and the MZ-3541 microcomputer. The typewriter is used as a keyboard/printer connected to an RS232 interface in the computer.

Asked about further developments from Sharp, sales director Rod Goodier says that he is 'personally very keen to expand the pocket computer market, where there is very great potential'. This does not mean that the home computer market will be neglected. 'With the MZ-700 family we will really go to town, and we intend to stay firmly in the home computer market.' Company spokesman Peter Fletcher explains: 'The business equipment division, including home computers, is a relatively recent innovation, and represents 25 per cent of turnover in the UK. The plan is to increase the proportion of turnover.'

At the moment Sharp UK has only a warehousing and marketing operation. The company is currently building a £15 million plant in Wrexham to assemble video recorders. The plant is expected to produce 60,000 machines in 1985 for distribution throughout Europe.

On the question of Sharp's involvement with other Japanese companies in the expected MSX invasion in the autumn, Rod Goodier replies that 'Sharp have developed an MSX system, but there are no plans to launch in the UK at the moment.'