Memotech MTX 512

A high standard of construction, and some interesting standard software for handling machine code, are the distinguishing features of this machine

The Memotech MTX 512 comes remarkably close to fulfilling the requirements specified for an 'MSX standard' computer (see page 252); and were it not for the use of Texas Instruments' 76489 sound chip (MSX specifies a General Instruments AY-3-8910), the MTX 512 could claim to be one of these 'standard' machines. It does conform to the MSX specifications, however, in having a Z80 CPU, a Texas Instruments TMS9918/9928 Video Display Processor, and a dialect of BASIC that is acceptably close to the Microsoft version.

The Memotech MTX 512 is such a comprehensive and elegantly designed machine that it is sure to win many admirers. Its external appearance is a great improvement on many other computers, which often cram sophisticated electronics into a cheap and flimsy casing. The MTX 512, on the other hand, is housed in a black, well-sized and smartly designed casing, constructed from aluminium in a wedge-shaped slab.

The machine is designed to allow easy access to the inside (simply by unscrewing two Allen-key bolts and swinging the bottom casing away) to reveal the circuit board. Compared to other machines, the MTX 512 has a relatively large number of chips. The machine's designers evidently preferred, or found it more economical, to avoid using a few big ULAs. By using a more traditional layout, consisting of many tightly packed chips, the machine facilitates quicker and easier diagnosis of faults. In ULAs, however, faults are very difficult to locate and impossible to repair.

The user manual is not as good as those of other companies and, apart from the covers, it has neither colour nor tints, which would highlight headings and make reference easier. Another drawback is its lack of an index, which makes it difficult to use. However, it is a relatively comprehensive manual. Memotech have decided to make their machine 'open', meaning that they aren't holding any secrets from the purchaser. Information about the machine is presented in great detail: full memory maps, tables of useful locations, input/output addressing, the circuit diagram, and a good introduction to the BASIC language are featured. And specialised chapters on NODDY (see panel), the assembler/disassembler and graphics are also included.

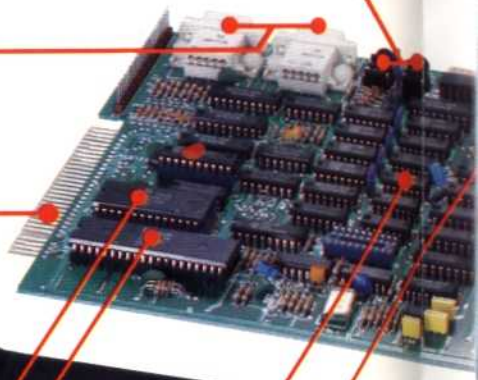
The Memotech MTX 512 is particularly unusual in having an assembler/disassembler that can give, along with the 'Front Panel' software package provided, a machine code programming facility. The assembler package, however, cannot handle symbolic addresses and labels; but provided careful notes are kept while programming, it is quite adequate for moderately sized programs. We will be looking at assembler packages and machine code in more detail later in the course.

The Front Panel is a novel addition to a machine at this level, and is capable of most impressive machine code de-bugging. Unfortunately, this is

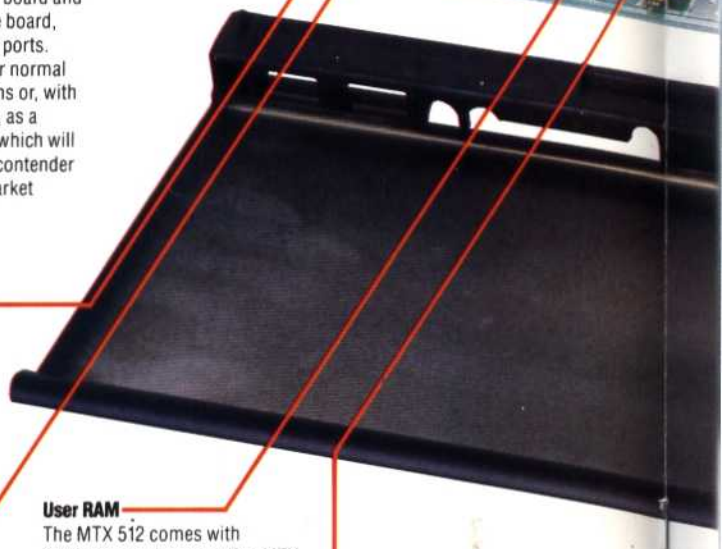
Keyboard
The keyboard is among the best ever put on a home computer. It has 79 professional typewriter keys, which are backed by a steel sheet. This makes it very rigid, and combined with the aluminium casing gives a good solid weight to the machine

Cassette Interface

Joystick Connectors
Two ports are provided, which will work with any joysticks using the Atari standard



Expansion
The Memotech MTX 512 is obviously intended for considerable expansion. The first serious addition should be a memory expansion board and a dual serial interface board, providing two RS232 ports. These can be used for normal serial communications or, with appropriate software, as a distributed network, which will make the machine a contender in the educational market



Clock Timer Chip
The Z80 CTC provides all the timing functions used by the microprocessor

User RAM
The MTX 512 comes with 64 Kbytes as standard. The MTX 500 has 32 Kbytes

CPU
The Z80 microprocessor is used, at a clock speed of 4MHz

Parallel Interface
This port corresponds to the Centronics standard for parallel interfaces and, together with the RS232 interfaces, allows the MTX 512 to address virtually any printer