

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

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

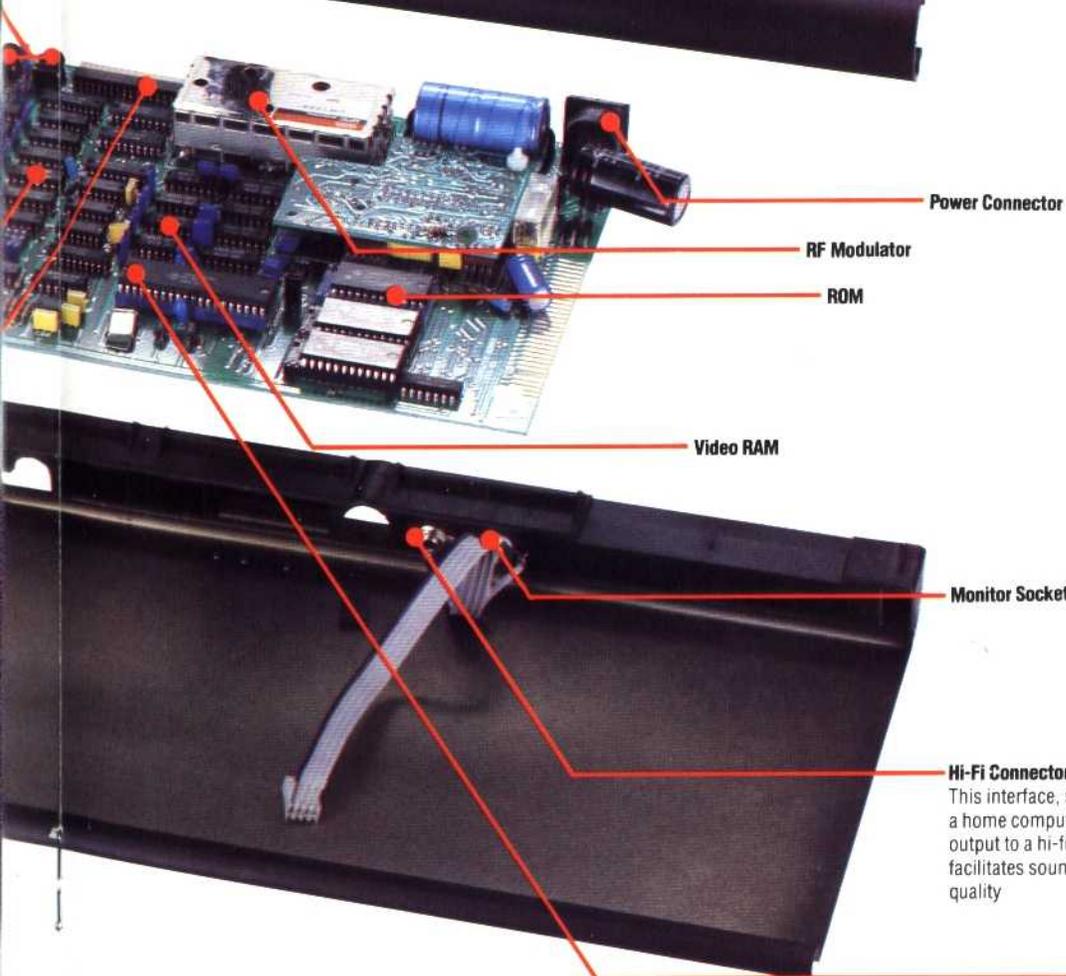
The Z80 microprocessor is used, at a clock speed of 4MHz

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

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



MEMOTECH MTX 512

PRICE

£310.00

SIZE

488×202×56mm

CPU

Z80

CLOCK SPEED

4MHz

MEMORY

ROM: 24K

RAM: 64K user RAM, plus 16K video RAM

Expandable to 512K

VIDEO DISPLAY

24 lines of 40 characters, 16 colours with background and foreground independently settable. 127 pre-defined characters and 127 user-definable characters

INTERFACES

Cassette, TV, composite video monitor

LANGUAGE SUPPLIED

BASIC, NODDY, Assembler

OTHER LANGUAGES AVAILABLE

To be announced

COMES WITH

Installation and BASIC manuals, TV lead

KEYBOARD

79 high-quality keys

DOCUMENTATION

Thorough and reasonably complete, but not very interesting to look at. It holds enough information about the internal working of the machine to enable most competent programmers to achieve full control

Graphics Chip

This is a Texas Instruments TMS 9928, which controls all aspects of video generation and gives the MTX similar graphics features to the T199/4A and Sord M5 computers. However, the operating system of the MTX has some useful graphics facilities as well, such as the ability to divide the screen up into several windows

one aspect of the machine that is thinly documented, and though the various commands are listed, little information is given about their functions, and few examples of their use.

The Memotech MTX 512 can be considerably expanded, and with the various extensions that are planned it should become a very capable machine. It will no doubt win many satisfied users and stimulate the development of plenty of supporting software.

NODDY

A subset of the NODDY language is included in the system software and adds a unique dimension to the machine. Being designed as a first-time language for untutored users, NODDY appears to be a very simple language, but on closer inspection it is clear that some of the commands are very sophisticated. It is limited by having only 11 commands, as well as no ability to handle arithmetic. This is because the language is designed principally to handle textual information. Beginners often find it easier to use text rather than numbers as basic data