

Multitech's PC-700 personal computer

While the name Multitech may be not particularly well known, it is one of the largest manufacturers of IBM PC-compatible computers in the world with a very good record for quality control. With the recent release of the new Multitech range, we decided to take a close look at their Model PC-700 optioned up with a 20M hard disc.

by LEO SIMPSON

Dick Smith Electronics have been selling Multitech IBM PC-compatible computers for just over a year now and have had very good sales with the Popular 500 model. Now Multitech have released an extended range of three new machines. They are the PC-500, PC-700 and PC-900.

The PC-500 is very similar to the old

Popular 500 model. It has one 360K disc drive, 256K of RAM, a single expansion slot and optional extra floppy or hard disc drive, and the capacity for up to 512K of RAM. The 500 also has been slightly restyled and to this reviewer's eyes, does look better.

The PC-700 is a somewhat larger and more capable model, which comes with

two 360K disc drives as standard, the full 640K of RAM, a larger keyboard and a nominal six expansion slots, although, as we shall discuss later, at least two of these are already occupied, depending on how the machine is configured.

The top of the range PC-900 model is Multitech's answer to the IBM PC/AT and it has a similar specification to that machine. It uses the 80286 processor, is supplied with 512K of RAM which can be increased to a maximum of one Megabyte, and has a 20 Megabyte hard disc as standard.

We decided to have a look at the middle-of-the-range machine, the PC-700 but fitted with a 20MB hard disc and one 360K floppy disc drive. This configuration would appear to be a popular one among PC/XT compatible buyers.

The 700 is quite an attractive unit and is certainly a welcome change from so many compatible machines which at-



The keyboard of the Multitech PC-700 has much the same features as that of the IBM PC/AT except for the separate cursor keys.

tempt to be almost identical in appearance to the IBM PC. The case is slightly smaller than the IBM machine but has the now industry standard cream/beige finish. It is fitted with half-height disc drives and the front panel is otherwise devoid of features apart from the very discreet power-on indicator next to the Multitech logo and the reset button below it.

The indicator really is not a power indicator but a speed indicator because the 700 model has two clock speeds. These are the IBM-standard 4.77MHz and the non-standard 8MHz. Running software at the higher clock rate gives a useful increase in speed (although not necessarily as much as the ratio between the two clock rates would suggest).

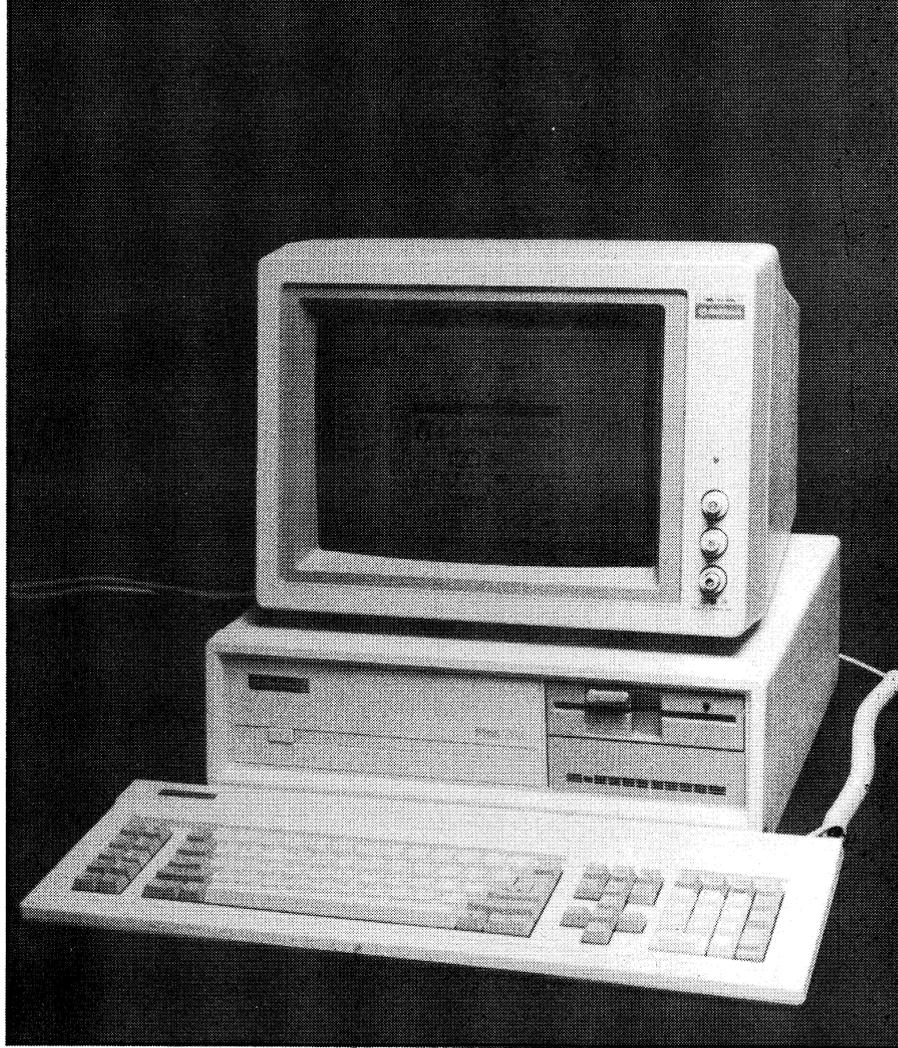
However, some software designed for the IBM PC will not run reliably at the higher speed and so it is necessary to be able to shift down to the lower clock rate at will. This is a "toggle" function activated by simultaneously pressing the Ctrl, Alt and "+" keys; ie, press them once and the unit goes to the higher speed, press them again and it switches to the lower speed, and so on. The green indicator comes on for the higher speed. Green for "Go," eh?

The reset button on the front panel is a good feature for two reasons. First, it lets you re-boot the machine after a "crash" in those cases where you can't use the Ctrl, Alt and Del keys together, because the computer will not respond to the keyboard (which can be more frequent than you might think).

Second, by allowing the warm boot procedure you not only avoid the RAM check routine (although the Multitech does not appear to do a full parity check on memory, which takes much longer) but also eliminate any problems of otherwise having to turn off the machine and thus remove power from the hard disc. The last point is important because it is not wise to turn off the machine until the heads of the hard disc drive have been properly parked (by the "Ship Head" routine).

Removing the case of the Multitech is relatively easy. You just undo four small screws at the rear, slide the cover forward and tilt it to clear the front of the chassis. The cover section retains the front panel together with the hard and floppy disc drives. With the cover off there is good access to change or remove accessory boards. Note that if you want to remove the top cover completely, it is necessary to detach the cables to the hard disc and floppy disc drives.

As with most machines of this type the construction involves a single large



The standard Multitech PC-700 comes with two 360K floppy drives. This machine was fitted with the optional 20M hard disc drive.

motherboard with slots for six standard IBM boards. In the PC-700, three of these slots are already occupied with the controller boards for the hard and floppy disc drives, plus the colour graphics board. The latter has a standard 9-pin D socket for the RGB output to the monitor plus two RCA sockets for composite video signals.

There is no need to install cards for RS-232C and Centronics printer outputs since these are already present on the motherboard. Nor is there any need to fit boards to accommodate extra memory or a real time clock. The mother board has sockets to accommodate the 640K maximum memory addressable by the 8088 processor and as noted above, the review machine was "fully populated". A real time clock is a feature of the colour graphics board.

Effectively then, the PC-700 can accommodate three full-size IBM standard boards although the battery for the real-time clock on the colour graphics board does seem to protrude a little into the space for an adjacent board.

Looking from the rear, a substantial portion of the chassis at the righthand

side is occupied by the switchmode power supply which has a stated capacity of 103 watts. It is fitted with IEC standard power sockets for mains input and monochrome monitor output. The on/off switch is also at the rear although we would prefer the scheme used by some other computers of having the power switch under a cover on the front panel, to make it more accessible.

A common criticism which can be made of the IBM PC is that it has a noisy power supply and a noisy fan. In the Multitech, the power supply is certainly quiet and has no audible whistles at all, and the floppy disc is quite unobtrusive too. However both could be quite noisy and you would not notice it because of the loud whine of the cooling fan. There is no excuse for this; fans can be made virtually silent.

Keyboard

The keyboard of the Multitech is impressive and is no less than 557mm wide. That's almost twice as wide as the keyboards on some small machines, particularly portables. The main difference between it and the IBM PC key-

Multitech computer

board is that it has separate cursor control keys and the numerical keyboard is separated from the other keys. As well, there are LED indicators for power, Caps Lock, Num Lock and Scroll Lock.

We had few quibbles with the location of individual keys although the overall layout is more similar to that of the IBM PC/AT than the PC/XT with which this model has "compatibility". If the Multitech is the only PC-compatible you will own the keyboard differences are probably unimportant but if you already have an IBM PC or a compatible the differences could be a source of irritation.

The keyboard has adjustable feet and this, combined with its fairly thin profile, means that a comfortable typing position can be obtained. It has a fairly long coiled connecting cord too which means that the keyboard is not so closely tethered to the main processor. The action of the keys is not too bad either although they do not have the over-centre click action of the IBM keyboard.

Software and Documentation

Quite a lot of good documentation is supplied with the Multitech PC-700. There is a very substantial softcover

book which could be regarded as the operations manual, a similarly sized book on the Microsoft MS-DOS which is supplied with the unit, a book on the colour graphics adapter card (if fitted) and a 32-page manual on the keyboard.

In addition, if you have the hard disc option, you receive a 136-page supplement to MS-DOS which covers the utility programs relevant to the hard disc and small booklets on formatting and protection of the hard disc drive.

The software includes MS-DOS version 2.11, a utilities disc pertaining to the real-time clock and (for the hard disc) MS-DOS version 3.1 on two discs. As well, the PC-700 can be obtained bundled with Microsoft Windows (including Mouse) and the large integrated package Open Access (which includes word processor, database, spreadsheet and communications programs).

In use, the PC-700 was able to run a variety of software without problems other than those involving the adaptation of programs to run on a hard disc machine instead of one with two floppy drives. Those programs which can make use of the real time clock also have to be modified to suit that in the Multitech.

The higher clock speed in the PC-700 is certainly useful although the speed in-

crease is not necessarily the 67% increase predicted by the ratio of the clock speeds or the Norton Utilities disc. Rather it depends on how much use is made of the disc drives during operation of the programs.

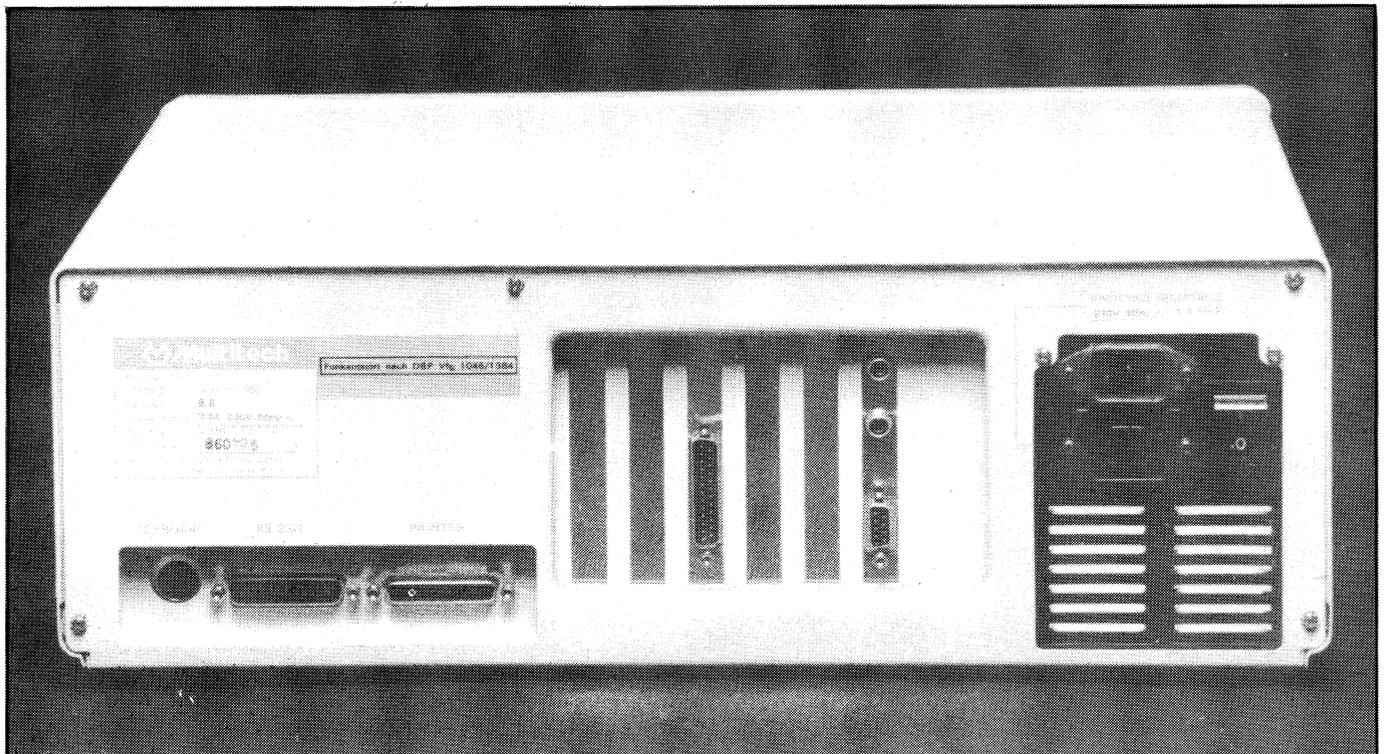
Overall, our impression of the PC-700 with hard disc is quite favourable although unless the prospective user has a lot of software in use daily, or is dealing with a large database, a twin floppy drive machine would be a more useful proposition than the hard disc.

Similarly, unless the proposed use involves graphics, the monochrome monitor and relevant adaptor card would be a more useful combination than the colour monitor we reviewed.

Recommended retail price of the PC-700 with two 360K floppy drives, monochrome adaptor card and 12-inch green screen monitor is \$2995 including tax. Fitted with a hard disc and one floppy drive, the price is \$4595 including tax and bundled with Microsoft Windows. With a colour graphics card and RGB colour monitor, the price is \$5095.

Both the latter packages can have Open Access substituted for Windows for an extra \$400 or added for an extra \$800. For machines fitted with a hard disc, the above prices include six months on-site free service.

For further information on the Multitech range of computers contact the distributor, Dick Smith Electronics. 



The processor of the PC-700 has provision for six slots of which two to three are already occupied.