Common Knowledge

Computer 'workstations' located in the same building can be linked together using a Local Area Network. This enables several users to share common information and expensive peripherals

Apple For Teacher
Networks are in common use at Information Technology Centres, like the one shown here, where young people train in the use of computers and microelectronics

Now that micros are becoming more and more common in schools and offices, the chances are increasing that there will be a number of compatible machines in the same building — or even in the same room. As soon as there are, someone inevitably turns his thoughts to methods of linking these machines, if only to share peripheral devices such as disk drives or letter-quality printers. Such add-ons as these are expensive and sharing them between a number of micros is an economical way of using them.

But the peripherals link-up is by no means the only benefit to be derived from joining machines together. Micros can be set up to communicate with one another in a 'network'. Where all the machines or 'workstations' are located within one building, the term 'Local Area Network' (LAN) applies.

Much has been said about the possibility of abandoning the use of paper in the office. An obvious first step is to replace the written memorandum with a message that appears from a remote source on a monitor screen. This 'postbox' facility is available on most Local Area Networks, and also on Prestel. Rather than disturb the recipient's work, the fact that a message is waiting is announced on the bottom line of the screen.

Another useful application is in the classroom. Text can be 'mirrored' from the teacher's micro to any or all of the students' workstations, or the teacher can use the facility to inspect any pupil's work, offering comments and suggestions.

The same facilities make possible the use of a common pool of information by a number of different users. Perhaps the most frequent application of this is to databases containing either public or private information — Prestel and the other viewdata systems are examples.

It is essential when a number of people are using the same 'file' of information to ensure that the information contained in it cannot be modified without all users being warned of the fact. For example, a manufacturing company might use a network of computers to hold information on the availability of components and raw materials. If each user is not presented with identical information, then at best there will be confusion, and at worst non-existent stocks will be allocated, perhaps to more than one department at a time.

Using microcomputers with perhaps 64 Kbytes of RAM or more, it is tempting to 'down-load', say, a portion of a database and then not refer to the master file again until you need to examine a different segment. Unless the controlling software is comprehensive enough to detect and reflect changes in information contained in that down-loaded section, the user may be referring to out-of-date figures.

The cost of much computer hardware is declining, but the technically more advanced peripherals can often cost more than the microcomputer that controls them. A good