necessary communications software in ROM form — a much less expensive method than those offered to users of other types of microcomputer, who must buy operating software as well as the ancillary hardware.

This software comes in two forms: on disk, or for the BBC Microcomputer — as a replaceable ROM. BBC users can opt to have the system selfbooting by installing the ROM in the right-most socket. On other computers the functions are the same once the program has been loaded from disk. As the systems are so similar in operation, we will refer in general to Micronet as implemented on the BBC Microcomputer.

The operating/de-coding software, created by Scicon, one of Britain's longest-established software houses, is necessary to allow individual microcomputers to operate according to Prestel protocols, which Micronet uses throughout (the Micronet subscriber automatically becomes eligible to access the entire Prestel database, with its wealth of information on all manner of subjects).

## LOGGING ON

All viewdata systems are completely menudriven. The user is presented with a series of choices, each of which represents an exit path from the frame being accessed. As the user enters the Micronet operating system the first series of frames asks for identification codes. These are in two parts, consisting of a 10-digit personal identifier and a Prestel subscriber number. Since Prestel allows the user to order goods and services, the price of which may then be charged to the user's account, these numbers function in their own right as a credit card. In the case of Micronet, the numbers determine who is charged the cost of downloaded software. A good deal of thought has obviously gone into the generation of this security system, and it would appear to be foolproof. For instance, the user can conceal his code number from onlookers by entering 10 asterisks in its place - whereupon the system demands that it be entered again, but this time does not display it.

Once logged on to the system, the user is free to wander around the database, collecting and sending messages, downloading games or business software at will — and also uploading, for Micronet is a two-way system with scope for selling software as well as buying it.

And so into the Micronet database itself. To be accessible from a series of menus, the structure of a database must be hierarchical — a 'trunk and branches' arrangement — and Micronet is no exception. Once the user is successfully connected to the Micronet computer via the telephone system, the first choice presented defines the general area in which he will work — 10 subject headings such as What's New, Computermart, Talking Back or Mailbox/Telex. While the titles are more or less self-explanatory, there are two 'exits': one that leads to a Help page, and another that leads into Prestel itself.

One of the main features of Micronet is its ability to distribute software. How is that operation performed? The appropriate menu prompt is Telesoftware, and taking that route presents the user with a list of the types of computer for which software is available (each has its own exit route), together with a menu that offers 'Top Ten' charts of the most popular items, an explanation of how to sell software through Micronet, Help lines and an advertisement.

Following the BBC Microcomputer route, we are led to a frame that offers a choice between individual software packages (games, business packages, utilities), new releases, bestsellers, free programs and Help frames. Selecting one of the four options offering programs reveals a list of titles with short descriptions. Choosing one of these prompts Micronet to display the frame known as the Downloader Menu. This defines the options available, which are to download and run the program, log-off the system, or run and stay connected to Micronet. Staying connected can be expensive in terms of telephone charges if you do anything other than save the newly acquired program on tape or disk.

While it is true that Micronet offers free software, the amount is limited, although Micronet claims to have available more than a hundred programs at any one time. Many of the free programs are amateur productions, so high quality sound and graphics should not be expected every time. The other software available is charged at varying rates, the price being set by the author.

As one has to pay for much of the Micronet software, this aspect of Micronet should perhaps be viewed as an alternative software distribution system rather than as a public service. Indeed, Prism's efforts to find a more effective method of distribution do not end with Micronet — the company is the UK agent for the American Romox system, which programs ROM cartridges for sale at retail outlets.

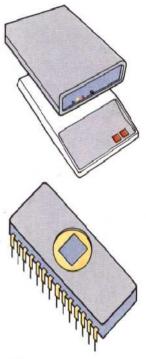
The other functions of Micronet are similar to the Prestel system itself, of which it is part: Mailbox is replicated in the larger system, as are the news and advertisement pages.

The route through the hierarchy, as determined by the exit chosen by the user, is defined by a frame identification number. It is possible to bypass the sometimes long-winded sequential access route by calling up any frame directly, if its identification number is known. This is a useful attribute for the experienced user, who is likely to become frustrated at having to turn through page after page of unwanted detail.

Considering the quantity and quality of the services it offers, Micronet is not expensive. A subscription costs  $\pounds 1$  per week for private users at home and slightly less than  $\pounds 2$  for business users and schools. There is the additional cost of the modem and, of course, the local telephone call that connects the user to the Micronet or Prestel computer — plus the cost of any piece of software one buys.



Acoustic Couplers An acoustic coupler provides the simplest way to connect machines such as the BBC. RML 380Z and the Apple to Micronet. You'l need appropriate software for your machine but the list of machines supported is continually growing



## Modems

Modems 100C and 2000 plug directly into the phone system and so provide a more reliable way to access Micronet. Appropriate softwara for the BBC can be supplied on a ROM chip so t's available the momen; you switch on



For The Spectrum The VTX 5000 is a modem specially designed for the Spectrum and has all the software you need built-in. It sits under the Spectrum and connects to its expansion connector