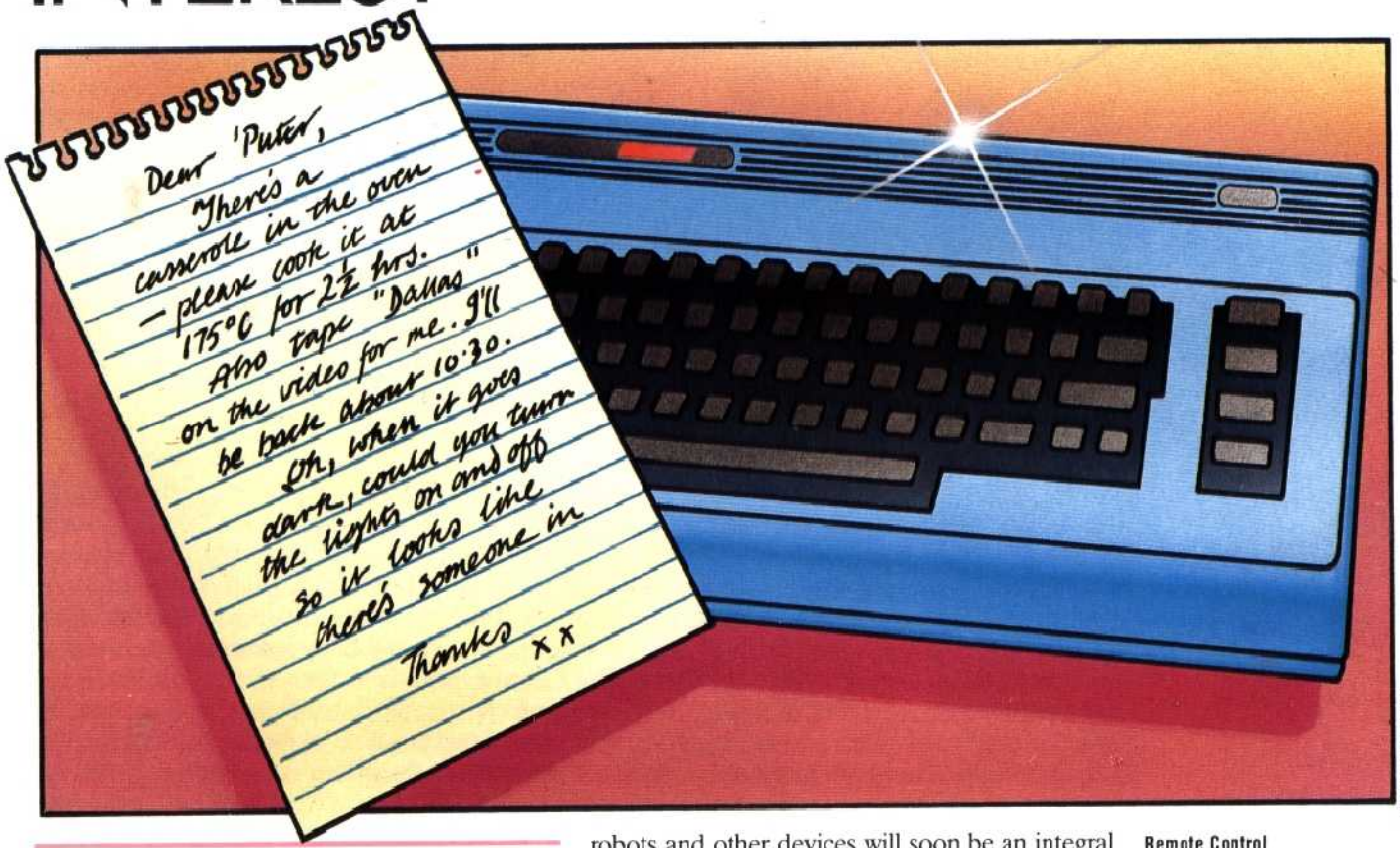
CONTROLLING INTEREST



MIKE BROWNLOW

Home computer owners have the choice of either buying software or writing their own programs. But few would make the choice between buying or building their own peripheral equipment. Yet there are now components on the market that make it easy to build a computer-controlled device that does exactly what you want it to do.

The only reason you really need to set up a micro so that it opens the curtains in the morning or waters the plants while you are on holiday is because it's fun to do. And there's nothing wrong with doing something simply because it's fun. After all, hobbyists spend all those hours writing their own software because they enjoy doing it.

At the present time, building your own peripheral devices may be regarded as 'playing around' with home-made gadgets, but this could prove to be a productive activity in the long run. Many people believe that computer-controlled robots and other devices will soon be an integral part of our lives (in much the same way as computers have become commonplace in as little as five years), and therefore skills learned now could be invaluable in the future. After all, giant computer companies like Apple and Atari began in the back garages of people just 'messing about' with electronic gadgets and components.

There are a number of elements needed in any computer-controlled system. Obviously there needs to be the computer itself and the item under control. There also needs to be some means for the computer to convey the control messages to the device, and software to enable the computer to decide what those messages should be. Yet this is only half the story. The computer usually needs to have some way of measuring what effect its control is having so that it can make fine adjustments. This is known as *feedback* and without it the computer is as useless as a blindfolded car driver.

All computer-controlled systems rely on control by electric signals. Unfortunately, the tiny

Remote Control
Linking a computer to equipment provides all sorts of possibilities for automatic operation under the control of a program. The computer can respond at pre-programmed times or react to events such as a drop in temperature or a burglar alarm being set off