



BEST OF BOTH WORLDS

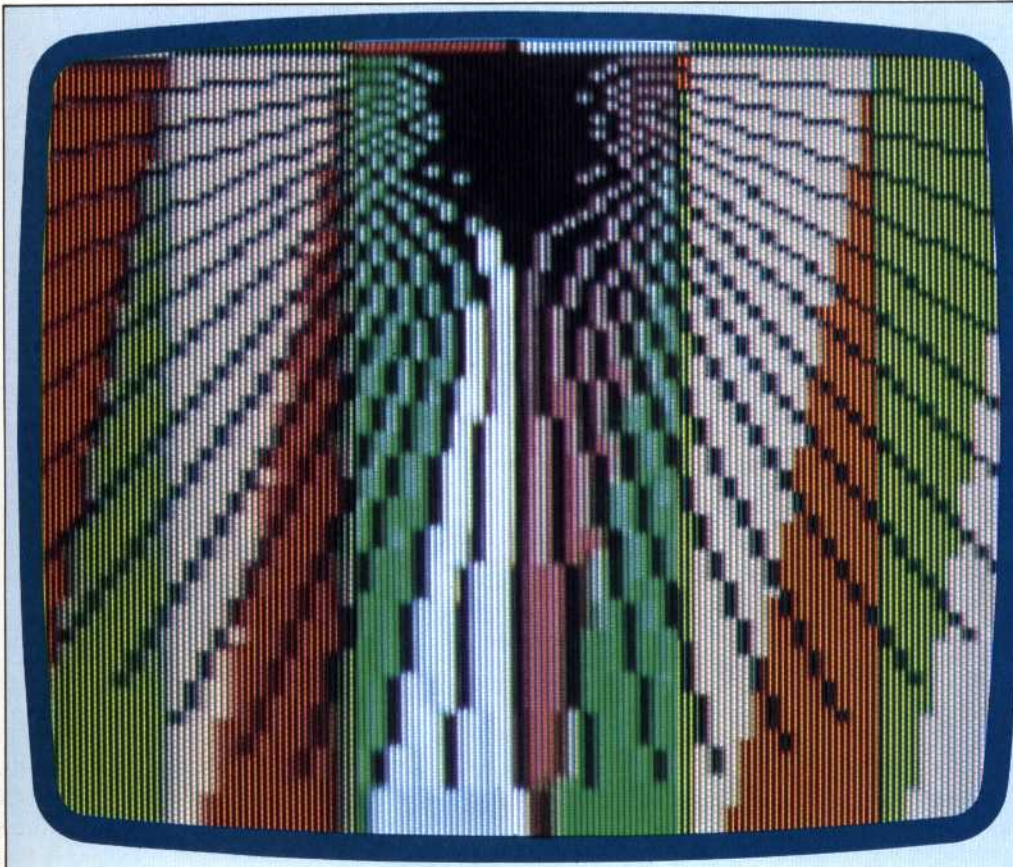
Although any home computer may be connected to a television set, the display quality is much improved if a monitor is used. Here we examine a third alternative — the use of a combined television receiver and monitor to give a high-quality display coupled with the ability to receive television transmissions.

Most home computer owners soon become accustomed to the wavering pictures and indistinct colours produced by their machines when connected to an ordinary television set. For those fortunate enough to have access to a monitor, however, the improved picture quality comes as a revelation — colours are clear and distinct, the whole display is steadier, and there is a marked absence of the 'dot crawl' that plagues television users ('dot crawl' is the shimmering effect that is particularly noticeable on the edges of text displayed on the screen). But there is a price to pay for this higher quality — monitors are more expensive, and cannot be used to receive television programmes.

Now, however, there is a third choice: the

combined television/monitor gives users the best of both worlds. It comprises an ordinary television receiver with an additional socket to give monitor-quality when connected to a microcomputer. Some users may already possess one of these hybrids without realising it, as many of the newer television sets are equipped with sockets for connection to video recorders, and these are equally suitable for micro use.

The problems associated with the use of ordinary televisions as computer displays stem from the way they receive signals. Television programmes are transmitted in the form of radio waves; these are picked up by the television aerial and converted into pictures. A home computer simply mimics this process by passing its output through a modulator (the small box inside the computer to which the aerial lead connects). After the modulator has altered the signal to the 'radio wave' form acceptable to the television, the receiver then changes it again to produce a display. This means that the signal can be corrupted in two places — at the modulator and inside the receiver itself. A monitor dispenses with the modulation; it runs directly from the raw picture signal, giving a high-quality display.



Three Degrees

There are three main types of display signal produced by computers. All home computers produce television signals but this often means a poor picture. Most computers also produce signals for monitors. These give a better display but are expensive. TV/monitors combine the quality of a monitor with the ability to pick up broadcast television pictures. The main difference in quality between TV sets and monitors is the type of signal they work from. These three images were produced on the same TV/monitor but using the three different types of signal, television (sometimes called RF), composite video and RGB. The television signal (shown in the middle) gives the poorest quality, the composite video (on the left) is a little better and the RGB signal (on the right) gives the best result