Appropriate software on the computer can keep a list of the available frames on a database and select from them as it needs to.

Philips has taken the idea a step forward and built a simple microcomputer into its more recent models. This can load a program appropriate for a particular disc from either an EPROM cartridge plugged into the machine, or alternatively from off the laser disc itself. Each laser disc stores two audio tracks and one video track. This allows a single disc to have a soundtrack in two languages for example. However, if the second audio track is not needed it can be used to store a computer program.

So we have a bank of 54,000 quality images under the control of the computer. The final stage is to mix the pictures from the laser disc with text from the computer. This could be done with two separate monitors, or by mixing two video inputs, or by using a monitor with its own teletext generator. This final step is an entirely new medium — interactive video. The user and software can guide the television display, both action sequences and still frames, by reading the disc in any order.

The most obvious application is for a pictorial database. The user could ask questions of the computer and it would retrieve relevant information from a database and instruct the player to display an appropriate video frame. This could be used for reference in libraries and schools, for everything from identifying various flowers to selecting items from a catalogue.

Interactive video can progress a stage further by involving the user in the sequences shown on the screen. A training program could explain something with a short clip of film and then ask questions, recapping if necessary or going into more detail and so on. You could even produce films that the user directs by taking decisions on behalf of the characters in the story. The whole course and ending of the film would be different depending on how you 'play' it. Fans of adventure games on home micros should find these new possibilities most absorbing.

There are, of course, problems with developing this market. Apart from the cost of equipment and manufacturing laser discs, new skills have to be developed in designing and producing interactive discs, both in terms of computer software and the scripting and filming of images. Many small companies are beginning to face these challenges and one multi-national, a company called Computer Assisted Televideo (CAT), has already established itself as a dominant force in the business. The company provides a complete service for customers — choosing and installing equipment, designing and producing discs and writing the relevant software. CAT is willing to tackle almost any application of interactive video but high costs currently limit most of its work to producing training programs for large businesses.

However, the possibilities for the home micro owner should not be ignored. Although the cost of producing discs is high, it is no higher than the costs associated with films and recorders. Laser discs already sell for around £10 each so interactive discs could be sold, with software, for around £15 to £20. Considering the quality of entertainment and educational programs made possible by interactive video, this is a very reasonable price indeed.

Interactive Video
Many laser disc players have an IEEE or RS232 interface that allows them to be controlled by microcomputers. A typical set-up might be a computer with a database relating to pictures on the laser disc stored on floppy disks. The user can select items of interest from the database, the computer will then instruct the laser disc player to fetch and display the appropriate picture by reference to a frame number. The system shown here adopts a popular approach of combining the computer's output and the laser disc pictures on the one screen. A simpler system would use two separate screens

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