Action Replay

Irlam s Replay DIY kit brings movie-making within reach of the average user. Alan Wrigley becomes a movie mogul for

M ost readers will by now have heard of or even used Acorn s Replay system, which was designed to display movie sequences on the Desktop. In this system, data which has been captured from a live or recorded video source is cleverly compressed into a file, which can be replayed at 12.5 frames per second (25 fps is also possible if your hardware is fast enough). This enables very impressive-looking movie sequences (though a little on the grainy side) to be played directly from hard disc or CD-ROM.

Although the ability to display moving images on a personal computer at all is a considerable technological achievement, the capture of standard video data in the first place is beyond the capabilities even of the Archimedes. Until now, the only way to create a Replay movie has been to enlist the services of a professional video company (and pay professional-sized costs). Irlam s system, developed in conjunction with Acorn, breaks new ground by reducing the video and audio bandwidth in the incoming signal, and allowing anyone with an appropriate RISC OS computer and a video recorder or camera to create movies simply by installing a single-width expansion card. Appropriate in this context means an A540 or A5000, or a 300/400 series with a fast hard disc (and plenty of free space on it!) and an ARM3. 2Mb is the minimum RAM requirement, and 4Mb is preferable.

REPLAY DIY IN USE

Once the expansion card has been installed in the usual way, it must be connected up to your video source. A BNC socket is provided for the video input, and two phono sockets for stereo audio.

Most video cameras and recorders have similar outputs, and leads are widely available to connect the two. I used a a Panasonic camcorder to test the product, and everything worked perfectly first time.

Two accompanying discs contain a number of software applications, each of which performs a different function in the process of converting your video source material into a Replay file. The first application you need to use is called ReplayDIY. This opens a window covering about a quarter of the screen, in which initially the output from the video source is displayed. At the foot of the window is a row of video recorder-style buttons, and to start recording a movie, you just press the Record button - it s as simple as that.

When you press the Stop button, you will find an uncompressed video file on your hard disc that has eaten up a prodigious amount of free space - 21Mb per minute of recording, to be precise. This is a ViA file (video interlaced with audio). This is an intermediate stage in the production of a Replay movie, but before compressing it into its final version, the ViA file itself can be modified. It can be played back using ReplayDIY, whereupon it will be shown in the window, and you can edit it by dubbing another source onto it, either video or audio or both. This enables you, for example, to dub a soundtrack onto an existing movie sequence; to extend a sequence by dubbing both video and audio onto the end of it; or to replace sections of the original by dubbing over them.

Once you are satisfied with the sequence, you then move on to the next stage, which is to install the ViatoRepl application supplied. This takes the ViA file and compresses it into a Replay file, ready to be played with the ARM Movie player which is the standard method of playing Replay files (and is also supplied with Replay DIY). The ViA-to-Replay process is not multi-tasking, and takes an age - up to two hours for a minute of movie time. Still, you only have to do it once, and the whole thing is a lot faster (and cheaper!) than sending your video cassette away to a professional studio. The process also requires yet more hard disc space - up to as much again as the size of the original ViA file.

The good news is that after the process has finished, your 21Mb-per-minute ViA file has shrunk to a 4.5Mb-per-minute Replay file. Be warned, though, that the ViA file will disappear in the process and cannot be reconstituted, since a so-called lossy compression technique is used (i.e. some of the information is lost during the compression process). You could of course make a copy of the ViA file first, but there isn't space for too many of these on the average hard disc. I understand, though, that the Empire system marketed by Uniqueway has a facility to convert Replay files back into ViA format, albeit without the lost data of course.

4.5Mb probably still seems like a frighteningly large chunk of memory. In fact, a minute of movie time is very long indeed, and most movie clips are much shorter than this. For most purposes, ten seconds is quite adequate, and very conveniently this is about the maximum size that will fit onto a single-density floppy disc.

NO WEEPIES
If the whole process of producing a Replay movie sounds amazingly simple, that's because it is. There is no steep learning curve, no head-scratching while you work out what does what, and no thick jargon-filled manual (all you need to know is described succinctly in ten pages plus a glossary). In the words of the cliché, it's so simple that a child could use it ... which is just as well since education is clearly the market at which this product is aimed. Pupils working on multimedia projects can now point a video camera at the subject, and have a movie up and running in Genesis, for example, in a few minutes.

As an added bonus, single frames can be captured from the input source and saved as sprites, so the system doubles as a colour digitiser.

The main problems with a product such as this when used on an average educational or domestic machine are the huge memory requirements, and the fact that the system is working to the limits of its capabilities. To do any serious work, you need to start with a large, half-empty hard disc. Given that most people tend to underestimate their future storage requirements when buying a computer, I doubt if there are many of those around! However, if schools and other establishments are serious about making full use of their computers, this is a problem that has to be addressed, since many present-day computer applications require memory in quantities unheard of a few years ago.

Although the Archimedes with an ARM3 is a wonderfully fast machine, its limits are shown up in two ways by Replay DIY. Firstly, although the ReplayDIY application is multi-tasking, in order to
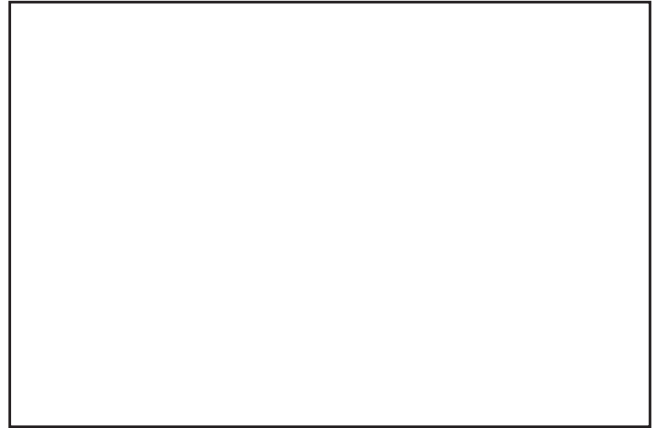
Replay DIY in action on the desktop

get the image on the screen fast enough to be of any use, it has to write directly to the screen rather than use the standard Wimp screen redraw routines. For this reason, the ReplayDIY window always has to be kept at the front of the stack - open another window or a menu in front of it and it promptly disappears behind. This makes it difficult to use other applications at the same time. The second problem is that occasionally the sound disappears when playing the video source through ReplayDIY. This happens when the sound system just can't keep up with the demands made on it. You can get the sound back by moving the window, but this isn't mentioned in the manual and I only found out by accident. Irlam has now agreed to make this point clear in production versions of

Product	Replay DIY
Supplier	Irlam Instruments
	Brunel Institute for
	Bioengineering,
	Brunel University,
	Uxbridge UB8 3PH.
Tel.	0895 811401