# School video equipment

## You need

- a miniDV camcorder £240
- a tripod £43
- headphones £20
- microphone(s) £25
- a suitable computer £550*
- digital video editing software £50
- cables and spare batteries £100
- provision for backup £80*

All prices subject to VAT. You may need more than one set of filming and editing kit.

- *You may be able to upgrade an existing PC for video. If it has a DVD burner you may not need to buy an external drive for backup.*

## Camera (£240-)

### Essential features

- IEEE1394 'in/out' (also known as DV, Firewire or i.Link).
  *This is the interface that connects the camera to your computer. You need 'DV in' so you can export your finished film to DV tape, and control the camera from your editing program.*
- Microphone socket
  *Poor sound is a common fault on student films, and it's often caused by the on-camera microphone being too far away from the sound source.*

### Useful features

- Analogue (AV) in/out
  *For copying from VHS etc.*
- Top loading
  *For ease of changing tapes when using a tripod.*
- 3CCD or 'three-chip'
  *These cameras have a separate chip for recording each of the three primary colours, which should give better image quality.*

### Suggestions

Canon mv920 kit £240 + VAT

*Education-only model. Cheap and easy to use but a bit limited for Media Studies. Zoom does not go very wide and you can't attach a wideangle adaptor. No headphone socket.*

Canon mvx460 £290 + VAT

*Higher resolution than the mv920, and comes with a wideangle adaptor. Top- loading tape compartment is convenient. Like the mv920, it lacks an accessory shoe and headphone socket.*

Panasonic NV-GS300 £500 + VAT

*'Three-chip' camera gives good image quality (except in low light). Lacks AV in and has no headphone socket). Should be robust.*

Canon XM2 £1250 + VAT

*Well-built, larger semi-professional camera, very good image quality. Cameras like this are less fiddly than smaller cameras, and perform much better in poor lighting conditions.*

## A note on lighting

Film lights are expensive and present major health and safety issues: you may be better off buying a more expensive camera and using available light. You could buy 'Lastolite' reflectors (around £50) to fill in strong shadows.

## Tripod (£43-)

### About tripods

- Video tripods shouldn't be too light.
- You need a 'pan and tilt' head (preferably a 'fluid head') and a quick-release plate.

### Suggestions

Jessops TP327 £43 + VAT
*The cheapest tripod which is robust enough for school use.*

Velbon DV7000 £68 + VAT
*Solid enough to hold a 'prosumer' camera like the XM2.*

Manfrotto 055C tripod/128RC head £160+ VAT
*Manfrotto make a versatile range of professional tripods – you buy the tripod and head separately.*

## Microphones (£25-)

### About microphones

- You need to be able to get your microphone close to the subject.
- The cheapest way to get good-quality voice recording is to use tie-clip or 'lavalier' microphones. When used under clothes they are usually unaffected by wind.
- A handheld microphone would be good as well – budget around £10-£20.
- Cheap directional microphones don't offer very good quality.
- A boom mic can be a good idea (but be aware of health and safety issues and the danger of it appearing itn the shot).
- Radio microphones are quite expensive but can be very useful.
- To film in windy conditions you need a furry windshield (£25 or more) – foam ones aren't adequate.

### Suggestions

Vivanco stereo tie clip mic £25 + VAT
*This one was the best in a recent comparison test.*

Sennheiser MKE300D £140 +VAT
*High-quality directional microphone designed for mounting on camcorders. Camcorder must have an accessory shoe.*

Audio Technica ATR55 £60.00 + VAT
*Reasonably priced directional microphone with foam windshield. Use with:*

K&M small fishpole (boom) £50 + VAT

(you will also need a thread adaptor – 99p from Maplins – to connect the two together).

AudioTechnica ATW1400 System £165 + VAT
*The cheapest radio microphone system we've found. We haven't been able to find a review so we don't know what the quality is like.*

Sennheiser EW-112P G2 System £350+VAT
*Sennheiser radio mics have a good reputation.*

## Headphones (£20+)

- Use headphones to monitor sound when filming, and when editing.
- You don't need to spend a lot of money on headphones (£20 should be enough).
- You do need *enclosed* headphones.
- Don't use 'in-ear' headphones as they can spread ear infections.
- If your camera doesn't have a headphone socket, you can use the AV output instead: connect your composite video lead to Maplins adaptors (two phono to 3.5mm stereo adaptor, part number JK14Q and a 3.5mm stereo coupler, part number JK05F).

 

## Cables and batteries (£100+)

### Essential

- Firewire lead
- Spare camcorder battery, from around £40.

### Useful

- Long phono-phono cables (for connecting camera output to a TV or data projector)
- Female-female phono 'couplers'
- Minijack extension lead (for connecting microphones to a camcorder)
- Two into one minijack adaptor (for connecting two microphones to a camcorder, or connecting two sets of headphones to a computer).

## Computer hardware (£450-)

You need a computer with:

- a fast processor and at least 256Mb RAM, more for some programs
- a large, fast hard drive, at least 20Gb and 7200rpm
- an IEEE1394 (Firewire) interface for connecting the camera
- a suitable sound card and speakers (buy headphones as well if you have several computers in the same room)
- a suitable graphics card

### PC or Mac?

- Most teachers, students and technicians are familiar with PCs (though Macs are easy to use and are common in the creative industries). If you already have suitable PCs you may be able to upgrade them cheaply for video work. You can get a PC package with hardware suitable for basic video work for around £470 + VAT.
- Some schools buy Macs specifically for video. All Macs come with Firewire sockets and iLife, a suite of easy-to-use creative software including the iMovie HD editing package. The 17inch iMac costs £743 + VAT. Or you could use a Mac mini (from £359 +VAT) with the USB keyboard, mouse and VGA screen from a PC you already have. (The latest Macs have Intel chips so you have the option of installing Windows on them as well.)

### Avoiding crashes

There are number of steps you can take to avoid computer crashes when editing:

- Make sure your editing software, your system software, and drivers for all cards and peripherals are up to date. Run Windows Update (PC) or Software Update (Mac).
- Switch off unnecessary processes:
    - PC: right-click the icons at the bottom right of the screen and switch off everything except the editing program and the virus scanner and firewall (if possible).
    - Mac: go to the Dock to see which programs are running and quit all of them except the editing program and virus scanner/firewall (if installed).
    - PC: If the machine runs Microsoft Office, make sure the quick start box is switched off.
- If you can afford it, have a separate hard drive for your video media.
- Make sure there is plenty of spare space on your disc.
- Don't try to capture to network drives.

Sometimes faulty memory chips can cause crashes.

## Editing software (£50-)

These are the education prices for single boxed products. Some of these products can be much cheaper with volume licensing deals. Professional programs, or those derived from professional programs, have more complicated interfaces and will take some time to learn.

### PC editing software

Ulead Video Studio will run under Windows 98 and Sony Vegas will run under Windows 2000; all the others require Windows XP. All these PC software manufacturers allow you to download free trial versions.

Ulead Video Studio £50 + VAT

*Popular entry-level editing program, relatively easy to use.*

Premiere Elements £43 + VAT

*Cut-down, good-value version of Adobe's professional editing program.*

Sony Vegas £199 + VAT

*Stable program with an unusual interface, good audio features.*

Adobe Premiere Pro £213 + VAT

*Powerful professional editing program. Requires a high-spec PC.*

### Mac editing software

Many teachers find iMovie adequate for GCSE and A-level work, even though it only has one video track and is designed for consumers rather than professionals. It's much easier to learn than most video programs.

iMovie HD Free with new Macs/£25 + VAT upgrade from older versions

*Very easy-to-use, part of the iLife suite which includes music-making, photo cataloguing, Web, and DVD authoring software.*

Final Cut Express £67 + VAT

*Pro interface, comes with powerful titling and audio software.*

Final Cut Pro 5 £212 + VAT

*Pro editing software. Features 'batch capture' and more sophisticated colour correction and compositing than Final Cut Express.*

Final Cut Studio £365 + VAT

*Integrates Final Cut Pro with professional motion graphics, sound editing and DVD authoring programs.*

## Backup

Coursework should be backed up at the end of each editing session. It's best if you can take the backup off-site. You could use:

- an external IEEE1394 hard drive, from around £90 + VAT.
- a DVD-RW drive: built-in ones cost around £100 + VAT.

*DVD-RW drives are quite slow, but they mean that each student can keep the backup of their own project.*

Further information: www.mediaed.org.uk/dv.html