CAR Video Unit – Video Editing Using AVID

Part 1 – Introduction to Editing

Early Film Editing

Editing is probably the most creative part of the film-making process. A good edit can rescue a project despite poor material, a bad one can ruin it - even if the original footage is excellent.

A lot of the terms we now use in editing were coined in the early days of film and video editing. What follows is a brief outline, with important terms highlighted in **bold** type.

The essence of effective editing is organisation, knowing exactly where to look for the footage you need to complete a film **sequence**. In the early days of film editing, after a day's shooting the negative was sent to the lab, a print hurriedly made, then rushed to the director for vetting. The **rushes** he authorised were then sent to the cutters. These rolls of film were then **cut** into **clips** which were stored in separate, labelled **bins** in cutting rooms for easy retrieval when needed. The editor would take a clip from the particular bin he wanted to add to the sequence being worked on. The film clip was physically **trimmed** and then glued to what was the end of the sequence at that time. This is why the original name for film editors was 'Cutters'.

If a film had to be lengthened, then further clips could be **spliced** into the **master** cut later to produce the **final cut**. This final cut was then sent to the negative cutter, who produced a negative cut, including any **transitions** which were desired (fades, screenwipes, dissolves etc). From this negative cut, copies of the film were printed and distributed.

Because it was possible to splice in clips or remove them at any point in a film **cut,** this method of editing was a **non-linear editing system**.
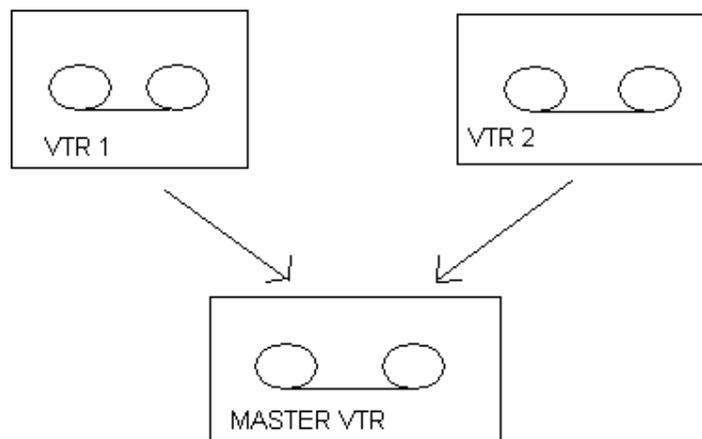
Off Line / Online Editing

With the advent of TV and analogue video, a new method of editing was required. It was no longer possible to see what was on a tape just by looking at it. Specialist equipment was needed – and this equipment was very expensive to hire. Also, it was not possible to glue sections of video tape together to create a sequence – this just cannot be accurately enough for the finished tape to be readable.

So, a new two-tier, editing system evolved.

Now, shooting tapes were sent to the labs so that VHS **BITC** (Burned In Time Code) rushes could be made. The **offline** editor and director would view the rushes on a standard VTR and create an Edit Decision List (EDL) on paper, noting the order, shooting tape and timecodes (beginning and end) of each individual clip to be used in the finished programme.

Once the EDL was finished it would be sent, together with the original shooting tapes, to an **online edit suite**, with two (or more) VTRs (videotape recorders) feeding into another, master, machine. Beginning at the beginning, the **online editor** would then find each clip in order and copy the clips onto the master machine to produce a master tape. The online editor also added any transition and video effects which the director desired, and ensured that the finished master was up to the technical specifications required for broadcast.

Once the online edit began, because of its linear nature (beginning at the start then copying over each clip in the desired order) any further changes were both costly and time consuming. (Each new generation of a tape – ie copying from one tape to another – experiences a drop in quality, so starting over from the first change is the only option if quality is to be maintained).

VTR 1   VTR 2

MASTER VTR

Non-Linear Video Editing

In the mid 1990s digital video appeared. Because the information on tapes was now stored digitally, it meant that it could be loaded into desktop computers for off-line editing in a non-linear fashion. The software to do this was relatively cheap, so the offline paper edit with BITC rushes was no longer necessary. Online editing is also non-linear again – the final cut is decided on computer and then the completed **timeline** downloaded to tape for broadcast. Now, off-line editing (or editorial) is used to denote working on a computer to put the film or programme together (often at low resolution to maintain computer speeds). On-line refers to re-importing the desired footage at full resolution, checking for flashes (to prevent epileptic episodes amongst viewers), checking that the colours are safe and legal to transmit (ie they

won't cause transmitters to crash), adding colour bars and time clock at the start and outputting to a master tape for transmission.

Three main computer editing packages emerged.

AVID was designed by film / video editors on the basis of 'let's see how computers can help us do what we do.' Avid's online packages (Media Composer, Adrenaline, Symphony etc) were still too expensive to be considered by anyone lower than professional level, but they brought out Avid Xpress / Xpress Pro for the educational / Prosumer market.

FINAL CUT PRO and ADOBE PREMIER were designed by computer buffs on the basis of 'computers are so great that they could do video editing too.' Initially, both left the pros to Avid and targeted the Prosumer and Educational markes.

Where all the affordable, prosumer packages were concerned, however, they compressed the footage as it was **digitised** into the computers, so that the quality of what came out was not as good as the original shooting tapes. Even with AVID, since hard drive capacity was at premium, projects were digitised for off-lining at lower resolutions so as to take up less storage space. As a result, EDLs still had to be produced and sent, together with the original, high quality shooting tapes, to a professional editing facility for on-lining if they were intended for broadcast.

With the continuing improvements in PC and disk drive specifications, however, together with the fact that Final Cut Pro recently released an affordable online package, it is now possible to edit to online standards on a desktop. Avid have riposted by bringing their first stage online package (Avid Media Composer) down in price to £2000 – and educational/training establishments can get hold of this software for around £200.

By 2011 Final Cut Pro 7 was becoming a serious rival to Avid in the Pro Market. Then they inexplicably discontinued it – replacing it with a completely different system called Final Cut Pro X. At the time of writing, the most popular professional editing courses are 'Avid for FCP Editors' – which is a good indication of which way the industry is going.

How Do NLV Editing Systems Work?

Non Linear Video Editing Systems have three main components – **Media Files, Timeline** editors and **Effects Files**.

The Media Files are the audio and video files which are created and stored onto the computer hard drive when shooting tapes are **digitised** into the system or data from camera cards uploaded.

The **Timeline** is a set of instructions which tells the computer which bits of which media files to access – and in which order.

Effects Files are created and stored when instructions to use various effects are put onto a timeline and then **rendered**.

There are four stages to the non-linear digital video editing process, which will be covered in four separate sessions. They are:

Session 1   Setting Up Projects, Logging and Capturing Footage (Digitising).

Session 2   Putting instructions regarding the captured footage onto a time-line to produce an initial rough-cut.

Session 3   Trimming and polishing the rough cut to produce a fine cut.

Session 4   Sound and Titling: Adding music / sweetening sound with audio tools and adding titles to project for final cut.

What about Film?

Unless specifically instructed by the Director, it is now very rare indeed for a feature film to be edited as they were in the early days. The vast majority of films are now digitised at a resolution of 2000 lines, edited on an Avid or Final Cut Pro Non-Linear Editing system, and then put back onto film for distribution to cinemas.

The current HD standard of 1080 lines is not as good as film – but works out at around only 60% of the cost of shooting on film where feature films are concerned. As a result, an increasing number of films started to be shot on HD.

Now HD formats of 4000+ lines are on stream (Red Cameras, Arri Alexas etc), however, for the first time the picture quality of video can actually be better than film.   The result is that now, in 2012, all the previous manufacturers of the 35mm cine camera used for feature films have stopped making them and the digital projection of 'films' in cinemas is becoming the norm.