

Department Art

Video Pre/Post Production

Reference Guide

The Department of Art Media Research Lab (DAMRL) offers students access to the equipment necessary to realise both production and post-production aspects of time based audio/video projects. This handbook is intended as a very general indicator of (and introduction to) some of the many things to be considered about the processes involved. Though some information may seem like good old fashioned common sense it is worth noting that a little extra care and attention during each of the stages of production will save a considerable amount of time in the long run.

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PRE-PRODUCTION

PROJECT PLANNING

- Make a list of the type of equipment required: eg. camera, tripod, microphone, lighting, etc.
- Determine how many tapes will be required for recording (an extra one or two can't hurt).
- Calculate how much time you will need to shoot the footage / record the audio.
- Check out the location for your shoot to ensure that extraneous ambient sounds will not adversely effect the audio of your final piece. Check whether the location has enough power outlets to run your equipment (lights etc.), or that everything you need is powered by an independent source (e.g batteries etc). Also check the position of the power outlets to ascertain the potential need for extension cords etc.
- The demand for borrowing college equipment is extremely high, please try to be flexible with your shooting schedule and booking times.
- Allow adequate time to produce a project, the process very often takes longer than expected.

SOME RELEVANT QUESTIONS

- What are the conditions for the shoot (indoor/outdoor)?
- Will extra lighting be required?
- What type of microphone will you need?
- Have you obtained the consent of the people you are filming (a model release form may be required) ?
- Do you need a permit or permission to use the chosen location?
- Is it a singular temporal event or will multiple takes, or multiple camera angles, be required?

PRODUCTION

CAMERA PROCEDURES

- DAMRL cameras record in various formats: Mini DV, HDV, Full HD and Tapeless.
- If using tape for DV or HDV put the lens cap on and record **30 seconds of black**. This 'leader' allows the VTR to properly 'preroll' during editing allowing all of the recorded footage to potentially be used.
- Let the camera record for **10 seconds before and after** shooting the scene/activity you want to capture. This again ensures that no footage will be functionally unusable during the editing process.
- Use **manual focus** as much as possible to avoid unwanted temporary image blurring that can occur in auto-focus mode.
- Set the **white balance** correctly by pointing the camera to a white card (or other white surface) and manipulating the white balance controls as described in the camera manual. The white card should be under the same type of light as that of the subject you will be shooting. If the type of lighting or the lighting conditions change or the camera has been restarted you need to **reset** your white balance.
- Use **manual controls** whenever possible. In subdued lighting conditions manual exposure can often make the difference between visually rich or grainy darks. Manual settings can also achieve effective 'looks' for footage (e.g washed out etc.).
- Use proper lens tissue to clean the lens or use a camera brush to blow off the dust (the lab can supply these). Any other seemingly soft tissue such as kleenex will scratch the lens.
- Ensure that the batteries are fully charged.
- Keep the camera dry. Try to avoid shooting in the rain, but if you must, ensure the camera is extremely well covered.
- Do not leave any equipment unattended, especially in your studio space. Do not leave it in your studio locker overnight.

LIGHTING

- For indoor shoots, you will generally get the best results if you use a proper lighting kit (available from the MEC).
- Try to **avoid mixing** different lighting sources (ie. tungsten lights with daylight etc.).
- Consider using white cards/paper to bounce light into darker areas, or filters & gels to diffuse and/or alter the light quality

TIMECODE

One of the singularly most important considerations with regards to project management, particularly in the editing stage, is keeping continuous timecode on the DV tapes when recording original footage. Cameras, and subsequently editing programs, understand how to locate footage on tapes by timecode.

- During recording the camera records essential information on the edge of the tape beyond the video image. At 25 frames per second the recorder assigns every frame a sequential time based number: eg. **00:05:20:24** (HOURS: MINUTES: SECONDS: FRAMES @ 25/second). This number is called **timecode**.
(Note: some view finders may only display hour:minutes:seconds, but the tape itself is still recording the frame rate version of timecode).
- If recorded properly an hour long tape should have a timecode reading 00:00:00:00 at the beginning and 01:00:00:00 at the end . This is called **continuous timecode**.
- If the camera starts recording on a part of the tape where there is no recording, and therefore no timecode, the counter will start again from 0 even if it is the middle of the tape. This is called **broken timecode**.
- The timecode will automatically stay continuous if DV cameras are kept in 'Camera' mode, and only used with the record/standby button (even if the power is switched on and off). Do not feel restricted by this, there is a way to review your footage and continue with unbroken timecode. (Note: Remember to record 10 – 20 seconds of extra footage at the beginning and end of each shot.)
- In Player mode, the camera is just like a VCR, so you can easily check what has been shot, the key is to reposition the tape to just before the end of the last recorded timecode. If you go past it and start recording you will have broken timecode which will make project management and editing difficult later on. In the media lab we ask people with broken timecode tapes to make dub copies on to a new blank tape so the copy has continuous timecode (which would then be used in editing).
- Even after reviewing footage it is possible to keep the timecode continuous by using the **edit search button** feature.

USING EDIT SEARCH TO MAINTAIN CONTINUOUS TIMECODE

- After viewing your material in Player mode switch back to Camera mode.
- In Camera mode, while looking through the viewfinder, use the **edit search (+/-)** (sometimes called rec search) button to find the end of the last shot and position your tape a few seconds before the blank area of the tape begins (you should still see the timecode in the viewfinder). Essentially the edit search button momentarily turns the recording camera into a VCR so you can see what's recorded even though you are in record mode. When the button is released however the camera is immediately ready to record. (Note: Any material after this current tape position will be recorded over.)
- Because the camera can now detect recorded timecode you can start recording again and the timecode will be continuous!
- If you have broken timecode we advise you to dub your tape prior to commencing your editing. This is done by using the Copy Rack, please ask lab staff for assistance.

AUDIO

- Check audio levels using the camera's meter and **use headphones** to monitor the sound being recorded. Unwanted sound can generally not be removed later, try to obtain a clean, balanced recording on location.
- Consider using an **external microphone** as built in camera microphones often pick up the sound of the camera mechanism.
- To **minimise unwanted sounds**, turn off any unnecessary electrical equipment in the room (fridges, fluorescent lighting, electrical heaters and fans are particularly notorious noise producers). Be aware that aircraft constantly fly over London and the noise can be picked up during both exterior and interior shoots. Also beware of slamming doors and hammering in the shared studio spaces of the College. Always **monitor the audio with headphones**.
- Place the microphone as closely as possible to the selected sound source (be careful while handling the microphone as changing hand grips or moving cables can produce sounds that the microphone will pick up). Make sure the microphone is not in frame.

- Record 2 - 3 minutes of **ambient** (atmospheric) **sound** after shooting the intended material (this is extremely useful during sound editing). Every interior space has it's own 'room tone' that can be adversely affected by the sound of the camera motor, fluorescent lights, air-conditioning, boilers etc. Ensure you have 'quiet on the set' while recording.
 - Additional sound (music, fx etc.) can be mixed together during editing.
 - A seperate audio **recorder** is also useful for recording audio on location and can easily be added to video material later. The benefit of using a separate audio recorder is that you can concentrate the audio recording on subjects farther away from the camera.
 - **Voiceovers** can be recorded in the Video Lab using the sound recording booth.
- **Note:** It is difficult to remove unwanted sounds from sound recordings and it is therefore advisable to make sure that the original audio recording is as clean as possible. A few extra minutes of preparation or trouble shooting at the recording stage can save a great deal of time later in the editing processes.

THINGS TO CONSIDER ABOUT PRODUCTION

- Your original tapes are the only link between the finished project and the editing program, take care of them. If, for example, the media recorded on the computer becomes corrupted, lost or is accidentally deleted your edited project can easily be rebuilt from the program information provided you still have your original tapes. **DO NOT RECORD OVER ORIGINAL FOOTAGE.**
- **Continuous timecode** is important.
- Do not rely on post-production (i.e. editing or special effects software) to fix problems with the original footage. While some simple qualities can be corrected (for example: colour changes), the quality of the footage you shoot is the basis for the editing process and will essentially be evident throughout. Take a few extra steps and a little extra time to ensure that the original camera shoot has the best set-up possible (white balance, lighting, exposure, focus etc.). (Note: The Lab occasionally offers classes on camera usage, and technicians are always available to answer questions.)

- Unlike a still camera, footage shot on a video camera turned sideways will only appear upright if the television monitor on which it is viewed is also turned sideways (which is not particularly good for the monitor) or if the footage is alternately processed (which takes time and affects the look of the image). **Think twice before turning the video camera sideways.**
- As with video the overall quality of your initial audio remains the foundation from which any alterations or editing are built. **If the audio recording is noisy or unclear to begin with it will be much more difficult to clean up at a later date.** Giving footage a 'degraded' quality is easier than trying to clean up a degraded image or audio file.
- If recording a number of different projects / programs on the same tape, or if source footage from a number of different shoots is being recorded on the same tape and you want them to be demonstrably separate, record sections of black (i.e. with the lens cap on) to separate the sequences. Do not fast forward the tape to a new position as this will only serve to create a complex timecode issue.

EDITING

MEDIA STORAGE (ALSO SEE APPENDIX E)

- By its very nature video information requires a substantial amount of computer storage space. Before beginning the editing process certain decisions should be made regarding the media storage settings the editing program assigns to each individual project. If the project is very long or requires using a lot of footage settings will be different than a project that is only a few minutes in duration (the difference between **online** and **off line** editing). Lab staff will discuss the nature of each project with the individual student to determine the appropriate settings.
- Media should always be stored on a drive separate (either external or internal) from the computer's main drive. You can use your own hard drive provided it spins at at least 7200 rpm (so it should have a mains power plug).
- As all the lab's editing stations are networked to a central media storage drive projects & media can be stored temporarily on the lab server and transferred between editing stations. **Projects not worked on for more than 31 days may be deleted without notice.**
- All media will be cleared from the drives at the end of each term (this is to allow for system maintenance). Therefore all project edits need to be saved on to tape (cd for project files) before the end of each term.

NOTES ON PREPARATION FOR EDITING

- It is a good idea, and good practice, to preview footage even if it is HD tapeless. to determine which sections are needed for the project. A copy of the footage on VHS tape or DVD that will show the tape's actual timecode ('burnt-in') is an easy way to look at the same tape many times without degrading the quality of the original DV. This will allow you to log (notate, see Appendix D) sections to be used during editing and speed up the capturing process. This **logging** procedure is particularly useful if the project uses pieces from a number of tapes.
- Video footage recorded on S-VHS, VHS, 8mm, Hi8 and Digital 8 must be transferred to Mini DV or DVCAM format prior to editing. For 8mm, Hi8 & Digital 8 formats, you will need to bring in your own camera to make the transfer.
- We recommend **transferring audio** on digitally or to DV tape though this is not essential.

NOTES ON EDITING

- If you want to keep a version of your edited sequence (timeline) before making alterations, duplicate and re-name your sequence within the same project. This allows you the possibility of returning to an earlier version.
- Before the end of each session, make a VHS/DVD copy (or digital file if showing on a laptop) of your work-in-progress. This will allow you to review your work before the next editing session, or to get input from others.
- Please note: perfectly synchronised frame specific images to be shown on separate monitors/ projectors require professional equipment not available through the college. Regular DVD or VHS players will slowly shift out of synch.
- Remember to **SAVE** your project often, especially after doing something difficult or complex (particularly when using special effects programs such as After Effects). Do not assume that the software will automatically save your work.
- **Back up your Personal Project Folder** onto memory stick or rewritable CD as often as possible. As mentioned earlier it is possible to rebuild your work from the notations embedded in the editing program's project files should anything happen to your media (audio/video files recorded in the computer). It is also helpful to regularly make a playable copy of your work in progress.

IMPORTING GRAPHICS

- You can import a variety of still image file formats.
- The size of your canvas when working in Photoshop or any other image manipulation software will need to end up being **720 x 576 pixels @ 72 dpi** for Standard Definition DV (1920x1080 forHD). Photoshop uses square pixels, whereas SD DV uses rectangular pixels (square for HD); there is a possibility of distortion occurring, please see lab staff for a way around this.

EXPORTING STILLS

- Video stills can be quickly and easily exported from editing programs for printing or digital slide burning. Some further manipulation is necessary in photoshop to make the files look right (e.g. de-interlacing, levels etc.) before printing. Staff can advise and demonstrate the necessary procedures.

MASTERING

Mastering refers to the **final hard copy** version (MiniDV or Full Quality Digital File) of the finished program from which either tape copies, digital files, or future DVDs can subsequently be made. **The master is the highest quality record** you will have of your final program, you should never leave a project without making a master.

- Decide which format you will be mastering to (MiniDV or Digital File) and purchase the appropriate tapes if required.
- You might have to re-digitise your final program from your original footage tapes; bring all of them when mastering.
- Some titles and effects may have to be rendered before you can master to tape. Rendering times vary; consult with staff when trying determine how much time will be required for finishing a project.
- Make a clone of your master tape or file. Backups are safe and sorely missed if not available.

NOTES ON DVD PRODUCTION

- Producing interactive programmable DVDs requires a computer to convert an already digitised (stored in computer memory via an editing program) video into a different type of compressed digital file (**MPEG 2**). The resulting files are then used to create DVDs using **DVD authoring software** such as DVD Studio Pro. This process takes time and can be a bit involved, always leave slightly more time than originally anticipated to complete this process.
- However, a domestic **DVD recorder** is available in the lab for making quick (real time) transfer copies direct from tape. These DVD's are ideal for tutorials or showing to colleagues and peers.
- MPEGs are produced from either a DV tape, tape master or directly from a program timeline.
- Blank DVD's may be purchased at the college from the Student Union shop, the library as well as the Digital Media Lab. They are also available at numerous outlets such as electronic shops, music stores, and often newsagents.
- BluRay discs are much more expensive to produce and require specialist playback equipment that the college may not have. However they are the only way to put HD on a d disc format. Ensure you have access to the necessary equipment if making BluRay.
- **Please note** that **DVD's are not universal**, home made DVDs can be made without a region code but region codes are different than video standards(e.g. PAL or NTSC). A DVD for North America must still be in NTSC format meaning you will need to convert the files in order to make a new format DVD. Sending PAL (European format) DVD's to North America relies on the DVD player being able to play both formats and the television/projector to recognise both video standards. It is

PRESENTATION

TUTORIALS AND SEMINARS

- Watch all tapes and DVD's in advance of a seminar, tutorial or exhibition to check for any problems or technical flaws.
- A/V presentation equipment is available from the Media Equipment Centre (MB 181) in the main building.
- Laptops are notoriously bad DVD players. If using a DVD try to get a proper DVD/Monitor setup. If using a laptop make a digital file instead of a DVD. The digital file will play back properly on a computer/laptop and image quality will not suffer.
- The College does not have any advanced playback equipment that allows for two or more perfectly synchronised

images to be shown on separate monitors/projectors. You can easily use two players to show works simultaneously however normal/domestic or College equipment will slowly shift out of synch. You can also create an independent 'split screen' video with two images side by side on one monitor/television.

- Test your work on different types of (college) equipment, as there will be differences in image quality and slight variations in frame size. Do tests before getting to the presentation stage.
- **Tutorials and seminars may not be conducted in the Lab** as they are disruptive to other students. Work can be previewed in the Lab but discussions should take place outside (e.g. individual studios, cafeteria, library etc.).

DEGREE SHOWS

- Check with your course leader to see what equipment will be made available for the show (this is usually decided several months in advance). Please note: The DMLab does not lend equipment out for the Degree Show.
- We have a list of companies and art organisations from whom students have hired equipment in the past. (Note: If you hire equipment, check whether the company provides the proper connecting cables.)
- If you are showing DVD's make sure the DVD player you use can play DVD-R format discs.
- If you are using an HD television but standard definition DVDs make sure the DVD player you use can 'up-convert' the video signal otherwise the picture may look significantly worse.
- HD monitors will require either a BluRay disc player, computer tower, media player, or multi-media hub with a hard drive.
- Check the dates of not only the degree show but also of the examination period preceding the show as you will need the equipment for the extra days.
- Security: Never leave any unlocked equipment unattended, even momentarily. Try to make, or have made, a locking bracket, cage or enclosed plinth to secure any equipment you will be using. This will help to prevent theft.
- Allow for as much ventilation as possible within any security enclosure - if the equipment overheats, it will shut-down automatically. It may also get damaged or create a fire hazard. Projectors, in particular, are very sensitive to heat and will cut off if they need cooling down.

ENTERING COMPETITIONS / EXHIBITING OUTSIDE THE COLLEGE

- Check the media format they require (DVD? Digital File?), and if sending tapes internationally, find out the video standard of that country (PAL?, NTSC?, SECAM?). The lab has equipment that can convert international standards back and forth.
- Only send A COPY of your work to any selection panel or curator. If an exhibitor needs a master tape to create an exhibition copy, never ever send your original Master tape or a full res quicktime file. Make instead a clone (an identical copy - with no loss of quality) using the Copy Rack.
- Send copies of DVD's making sure that you retain at least one copy in your possession. Exact copies of your existing DVD's can be made on any computer with a DVD burner, keeping one in reserve ensures you do not need access to DVD authoring software.

COMPATIBILITY WITH OTHER FACILITIES

- Media files can be transferred between art lab facilities, but check first as to which format the files need to be created and saved in. Files saved in the wrong format may not be usable.

Media Services Centre in the Library

- Media Services have several editing stations using Final Cut Pro and Adobe Premiere however you will need to save your project and media on to a hard drive in order to move the project between facilities. Note as well that the Centre does not always have available technical assistance.

Working at home or using facilities outside of the College

- If working at home or at an outside production facility, check with the technicians to see what format your work must be saved in, in order to allow you to transfer it to DAMRL. You cannot transfer media files from other editing systems (e.g iMovie) You may however be able to re-create your program from an EDL list. Ask staff for more information if you need to do this. Again if the other facility is using Adobe Premiere you can transfer the project and media on a separate hard drive (again one that spins at atleast 7200 rpm and has a separate mains plug in).

APPENDIX A TAPE FORMATS & ISSUES

DVCAM - MINIDV - HDV COMPATIBILITY

- **Do Not record DVCAM format on MiniDV tapes**, many machines will have problems playing back tapes recorded in this manner causing random pixellation and other picture anomalies. You CAN record HDV on MiniDV tapes but can only play back on an HDV camera or HDV deck (some HDV cameras are quite specific as to how they record on to tape and therefore other players may potentially have difficulties playing the tapes, it is often a good idea to bring your camera with you to the lab).
- When buying DV tapes, be sure to ask for a tape without a 'chip' (it will not be recognised by Media Lab decks).

MINIDV / DVCAM / HDV AUDIO

- Audio can be recorded on the DV tapes at different frequencies, 32Khz (12 bit), 44.1Khz and 48Khz (16 bit). Some cameras allow you to select the rate – the key is to be consistent (48Khz is the highest quality).
- The editing system will detect and warn you if your tapes have different audio frequencies. The problem can be easily resolved through manual settings in the editing program, but the tapes remain unchanged. Ask a technician for assistance.

TAPE CARE

- MiniDV and DVCAM tapes despite their name are still based on magnetic tape which plays through the heads of a player/recorder. The tape is subject to damage if it is overplayed just like any analogue tape. Record heads on decks and cameras can become worn out. Only use your Master tape to make copies, which are then exhibited.
- Store tapes away from heat, direct sunlight, dust, moisture, and magnetic fields (including the magnets in headphones, speakers, telephones and monitors). It is also a good idea to fast-forward and rewind stored tapes once a year.
- Clearly label tapes with your name, the project title, and the date.
- NEVER send your master tape to anyone - always send a copy.

APPENDIX B EDITING AND MASTERING CHECKLIST

PREPARATION

The following is a guide to the minimum number of tapes/ discs needed before you start editing:

(2) DVDs (1 for logging (to burn-in timecode copied from your rushes) and 1 to record your work in progress.).

(1) CD-RW or memory stick for storing and transferring logging sheets and project files.

(1) MiniDV tape or Hard Drive for your master.

- Extra DVDs are always recommended.
- We recommend that you always bring extra tapes with you in case you encounter any problems.

THE MASTER TAPE

- You can put as many project masters on to onetape as you wish realising the tape can only hold an hour's worth of footage.
- Use a **new tape** not an old tape that has been erased
- Before recording, fast forward and rewind the tape once. This will ensure that the tape has even tension throughout.

THE MASTER TAPE SEQUENCE

- Your final sequence should be prepared as follows:
- Begin with at least 60 seconds of bars and tone followed by a countdown before your program starts. Some editing programs have pre-sets to facilitate this others may require that you construct them in your timeline. Bars and tone allow for monitors to be calibrated, and audio levels to be adjusted. The countdown confirms the actual beginning of the work. These are not intended for exhibition but to ensure that any and all copies are consistent and as you intend them to be.
- Add 10 - 30 secs of black at the beginning of your completed program, before you Master to Tape.
- Record several minutes of black after your program has finished.

APPENDIX C NAMING AND SAVING PROJECTS

- Because of the large number of students using the computers, we follow a specific file and project naming protocol.
- The file name must contain: **your first name** and the **initial** of your surname followed by a brief **project name** (one word if possible or abbreviation) followed by the **date**.

Example

If your details are:

Student name:	Kate Price
Project name:	Hydra
Digitising date:	12 November 2007

you would label your project files as follows:

PROJECT FOLDER:	KateP-Hydra-12NOV
PROJECT:	KateP-Hydra-12NOV

- Always check that scratch disks have been set to the correct project folder and that each new project is given its own project folder and scratch disk assignment. This makes sure each project is using media located in the folder with the project name, meaning all files associated with the project can be managed and located with ease.
- Try to avoid using the 'Save as...' command as this will create a separate project associated with the same media.
- Creating new sequences or timelines is an effective way of saving changes or creating multiple monitor pieces within the same project.
- Remember to keep personal backups of your project.

APPENDIX D LOGGING

- Before you start editing you can use a DVD copy with burnt in timecode (visible on the screen) to view, locate and choose shots, then record the desired timecode information on a logging sheet. You can use the original MiniDV tapes but remember the more the tapes are played the more wear and tear they experience and eventually the image will degrade. The VHS/DVD copy can be made using the copy rack facilities in the lab or using your DV camera and a home VCR.
- Logging can be done during your editing session, however choosing the sections beforehand greatly increases the efficiency of your editing time. With the timecode sections prechosen the numbers are simply entered into the program and the capture process can begin immediately.
- To create a log, write down precisely the beginning (Timecode IN) and ending (Timecode OUT) of each chosen shot and take note of the duration. Make sure you allow at least 2 or 3 seconds at either end of the shot for potential dissolves. (See Sample Logging Sheet Below)
- You can also use a copy of the manual log sheet on the opposite page while viewing your rushes outside of lab hours.

SAMPLE OF LOGGING SPREADSHEET

Reel no.	Timecode IN	Timecode OUT	Clip Name	Tracks	Comment
1	00.05.40.00	00.08.50.00	Palm trees	A1 A2	bad light
1	00.25.03.02	00.33.04.15	beach	V	track shot
2	00.28.10.00	00.30.12.00	water ski	VA1	Zoom
3	00.05.10.00	00.07.12.24	bloody knife	V	Close up

APPENDIX E NOTES ABOUT MEDIA MANAGEMENT IN ADOBE PREMIERE

- With any editing software it is important to understand how the program organises and stores any media (imported video clips, photoshop documents, audio from cd or digital recorder, render files etc.) generated by each individual project.
- When opening Premiere for the first time set scratch disks to the folder that contains the project.
- Remember that every time an effect (speed change, color adjustment etc) is applied to footage Premiere will generate extra (temporary) media in the form of Render Files. The program can play back certain effects without rendering but eventually to see full quality play back (or to export movie files or MPEG2s) render files will have to be created. These files (stored in a render file folder in the scratch disk folder) are equal in size to the original material so projects can become very large very quickly. It is always advisable to monitor media files (capture only what you need, render only when necessary, occasionally delete render files etc.).
- Note: Because the lab has a large volume of users undertaking a number of projects each there is a limit we set as to how much full resolution material can be captured. The two choices available to students wishing to work with a lot of material (50 mins plus) are working **OFFLINE** (capturing material at low resolution and recapturing only the pieces used in the final edit - when editing is completed), or students can bring their own hard drives to work from. (Remember hard drives should spin at 7200 rpm at least, generally this means they will come with a mains power adaptor). HD takes up space so it is advised to use your own hard drive.

APPENDIX F HD/HDV (THINGS TO CONSIDER)

- HD cameras record at a much higher resolution (1920 x 1080 pixels - though there are higher resolution cameras) than Standard Definition (SD - 720 x 576 pixels) DV cameras. Working with the material involves essentially the same processes and procedures. The only thing that changes is how the individual project is configured.
- Domestic HD camcorders record information using a variety of CODECS (compressing the files to make them small). HDV cameras record on to MiniDV tape using an MPEG2 codec (the same compression used to make DVDs). For this reason we recommend that all students wishing to work with HD material should work from their own hard drives. (Remember hard drives should spin at 7200 rpm at least, generally this means they will come with a mains power adaptor).
- The second most important consideration regarding HD material is presentation. You need access to either an HD television monitor or projector plus a player that can handle the HD material. BluRay players require a BluRay disc to be made which can be expensive. Computer towers (laptop drives will be too slow) can play HD material but might not hook up to all HD televisions. There are some media playing hard drives plus a variety of media hubs that can be an intermediary between drives and monitors but you should always check for compatibility. In short the presentation of HD material will require research and investment in to the kit that will be appropriate for individual needs.

GLOSSARY OF SOME TECHNICAL TERMS

24 Frames - The standard film frame rate per second.

25 Frames - The standard PAL (European / Australian) video frame rate per second. (AKA 50i)

29.97 Frames - The standard NTSC (North American / Asian) video frame rate for colour broadcasting per second. (AKA 60i)

AIFF - Audio Interchange File Format is a file format standard used for storing audio data on PCs. The format was co-developed by Apple based on Electronic Arts Interchange File Format (IFF) and is most commonly used on Apple Macintosh computer systems.

Bit - Used to describe digital audio resolution. A bit is a binary digit representing two different states, either ON or OFF. The bit rate is the number of bits transmitted per second. The higher the resolution (bit depth), the better the sound. Bit resolution refers to the number of bits used to represent audio amplitude and therefore how closely digital audio represents the sound of the actual recorded source.

BluRay - An optical disc storage medium designed to supersede the standard DVD format. Its main uses are for storing high-definition video, PlayStation 3 games, and other data, with up to 25 GB per single layered, and 50 GB per dual layered disc.

Codec - (compressor-decompressor): a software module responsible for compressing and/or decompressing an encoded media format such as AVI digital video.

Component video - A video signal whose original elements have been retained separately.

Composite video - A video signal in which the luminance and chrominance elements have been combined.

EDL - Edit Decision List.

Equalisation (EQ) - The process of increasing or decreasing the amplitude of specific audio frequencies relative to the value of other audio frequencies.

Frame - One complete video image made of two sets of alternating field lines.

Frequency - Measured in hertz (Hz), cycles per second, frequency describes the rate at which a sound

Glossary (cont'd)

wave vibrates. A cycle consists of movement from a starting point (0) through both positive and negative amplitudes, eventually returning to the starting point. A sound's frequency determines its pitch: high frequency = high pitch, low frequency = low pitch.

HDMI - (High Definition Multimedia Interface) A compact audio/video interface for transmitting uncompressed digital data. Usually connecting an HD player to an HD monitor.

HD/HDV - refers to any video system of higher resolution than standard-definition (SD) video, and most commonly involves display resolutions of 1280×720 pixels (720p) or 1920×1080 pixels (1080i/1080p). HDV is a format for recording and playback of high-definition video on a DV cassette tape. It uses MPEG2 compression to accommodate the information. Two major versions of HDV are HDV 720p (HDV1 - used by JVC) and HDV 1080i (HDV2 - used by Sony and Canon).

Linear - Descriptive of tape recorders because they record and play back audio/video in a straight line, physically passing the audio/video over the recording and playback heads.

MPEG2 - A compression scheme optimised for moving pictures whereby the potential for compression is based on the similarity of successive pictures.

Non-destructive editing - Editing that doesn't change, erase or delete the original material.

Non-linear - Non-linear audio/video systems allow instant access to any file, in any order, at any location, at any time.

NTSC - National TV Standards Committee. A 525-line 59.94Hz composite analogue colour television system at 4.2Mhz bandwidth used in the USA and Japan.

OMFI - Open Media Framework Interchange, a file exchange protocol developed by AVID for interchanging audio, video and EDL's among different workstations.

PAL - Phase Alternating Line, a 625-line 50Hz composite analogue colour television system at 5.5Mhz bandwidth used in Europe, Australia and other parts of the world.

RGB - The video signal components of Red, Green and Blue.

SALES / RENTAL AND OTHER RESOURCES

These are suggested outlets and resources the Media Research Lab does not endorse any of these

TAPES, DISCS, DVDS ETC.**STANLEY PRODUCTIONS**

Major distributor / retailer for all your tape, disc, DVD, service, etc. needs. Very useful.

147 Wardour Street W1F 8WD

020 7494 4545 www.stanleyonline.com

PRO TAPE

Tapes, Film, Discs etc.

15 Percy Street W1T 1EE

020 7616 5500 www.protape.co.uk

PRODUCTION EQUIPMENT HIRE AND RETAIL**DV CAMERA HIRE**

DV/HD camera hire, steadicam jr, mounts, lights, lenses etc

62 ean Street W1D 4QF

020 7734 0410

www.dvcamerahire.co.uk

LIGHTSTORM TRADING LTD.

Chroma Key Materials - sales only

5 Orchard Business Centre, Kangley Bridge Rd
SE26 5AQ

020 8676 7902 www.lightstormtrading.co.uk

ROSCO

Screen materials, lighting gels (manufacturer not retailer - phone for info)

Blanchard Works, Kangley Bridge Road SE26 5AQ

020 8659 2300

WHITE LIGHTS

Chroma key materials

020 7731 3291

MAPLIN'S ELECTRONICS

Various outlets www.Maplin.co.uk

FILM EQUIPMENT / MATERIALS**WIDESCREEN CENTRE**

Film stock, cameras, accessories retail.
 47 Dorset Street W1H 3FH
 020 7935 2580 www.widescreen-centre.co.uk

EXCELSIOR FILM AND VIDEO

Super8 Telecine (w/ student discount)
www.videostudio.co.uk

BLUE AUDIO VISUALS

Film cameras and accessories retail.
 44 Duncan Street N1 8BW
 020 7713 6865
www.blueaudiovisual.co.uk

PRESENTATION EQUIPMENT HIRE**ADI AUDIO VISUAL**

Presentation equipment hire
 6-8 Standard Place, Rivington Street EC2A 3BE
 020 7729 8085
www.groupadi.com

HALO

Presentation equipment (tv monitors, VHS players, video projectors, lighting effects etc.) for hire.
 98-124 Brewery Road, Barnsbury N79PG
 0844 844 0484 www.halo.co.uk

MITES

DVD Sync hire, DVD Authoring
 FACT, 88 Wood Street, Liverpool, L1 4DQ
 0151 707 4434
www.fact.co.uk/main/services/mites/dvd_authoring/

SOUND EQUIPMENT AND ELECTRONICS**ASKDIRECT**

Audio equipment, electronic retail
 248 Tottenham Court Road W1T 7QZ
 020 7307 8321
www.askdirect.co.uk

RESOURCES

FOUR CORNERS

Film workshop (courses, equipment, some editing suites)

020 8981 6111 www.fourcornersfilm.co.uk

MANDY.COM

Film and Television production directory

www.mandy.com

SHOOTING PEOPLE

Filmmakers' network (for crew, actors, writers etc.)

www.shootingpeople.org

LUX

Not-for-profit organisation. Archives, large informational resource. Some equipment hire.

18 Shacklewell Lane E8 2EZ

020 7503 3980 www.lux.org.uk

FILM LONDON

Extensive listings of agencies and businesses

dealing with equipment hire and more

<http://flamin.filmlondon.org.uk>

(check: Home > Showing > Exhibition > Exhibition Equipment

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