

North Iowa Area Community College

A Crash Course in Video Production

A Basic Handbook



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3/18/2019

Video Crash Course

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This document on how to create a video is basic information, intended to give the reader rudimentary understanding of the creative processes involved in the television and video production. I will try to keep the discussion focused on fundamentals while attempting to avoid too many technical terms. Where technical terms are necessary, I will try to define them as I go.

There are a number of skills involved in a full-blown television or video production. They include writing, photography, performance skills both verbal and musical, lighting, sound recording, business management and sales skills, as well as basic carpentry. Of course not every video employs people in each of these skill areas. The various skills and levels of proficiency needed in any production are dictated by a combination of many factors. The purpose of this crash course is to help you understand what is needed and help you develop some of those skills so you can create videos that suit your needs. The understanding we have to come to here is that you will develop your skills with some training and experience.

The temptation is to buy a video camcorder and run out to begin creating the next hottest video on You Tube. My hope is that someday, you'll have the skills to do that, but let take a closer look at the production process to see if we can give you a better chance of reaching your goals.

That said, let me give you what I consider a nugget of wisdom that I learned early in my career and I believe is still a valid statement. I can't tell you who said it first, but it goes like this. "Award-winning videos, television shows, live plays and movies almost always begin with an award-winning script." As proof of this concept, I offer this: This year's Academy Award

show featured many Oscar-winning actors, producers and directors thanking the people who wrote the scripts for their films. The same is often true during the Emmy Awards, Screen Actors Guild Awards, and the Tony awards shows. Most of the time, talent (actors, musician, etc.), credit good scripts for their high level of achievement.

Putting your ideas into a script is often is often daunting. It doesn't have to be. Let's break it down into component parts.

1. Statement of Purpose

This is sometimes referred to as a "treatment." This step is a matter of putting on paper the general subject of the production, and what the producer hopes to accomplish. The statement should be fairly general in nature. It is really a statement of goal or goals. It is the direction in which the producer wants to be traveling.

2. Audience Analysis.

The producer should try to determine as much as possible about the intended audience for this production. This step may not seem important, but it really is. Think about it. You will obviously set a different tone with your narrative or dialogue if the production is to be viewed by elementary school students than if it is to be seen by senior citizens. This analysis need not be a lengthy process. However, knowing as much as you can about your intended audience is will help you make other production decisions later. Having a well researched audience analysis will contribute a lot toward your success. It may also be a part of your statement of purpose.

Here are some things to consider about a potential audience: What is there age generally, education level, social and economic status and even religious and/or political affiliations. Of course it will be hard to determine a lot of the specifics about an audience, but gather as much information as you can.

3. Audience Objective

Now that you have a clearer picture of who you are speaking to, you should try to state on paper what it is you hope the audience will take away from the production. Are you trying to entertain, inform, persuade, educate or give a call to action? Sometimes you will try to accomplish several objectives at the same time. That is okay, but it can sometimes make writing and producing the video more difficult. What you will want to eliminate are objectives that have cross purposes. This often occurs if you intend to use the video for differing audiences. Trying to educate one audience and then call a different audience to action with one video will be difficult to accomplish.

4. Write the Script.

Keep in mind the fact that in order for your video to be successful, you must communicate your message to the audience so people hear it, understand it, and perhaps act on it. To do so, you must first get and hold their attention, and to do that, you must present your message in a way that is both visually and verbally interesting.

Why? Because there are so many other things competing for the attention of your audience. If your message isn't interesting or compelling enough, individuals in your audience have many other options.

Television programs fall into five basic formats or production styles. Though they may be identified with different names, the styles themselves don't change much.

The Lecture

The lecture style is probably the simplest form of video or television production. It is basically one person talking directly into a camera. In its simplest form it only requires a camera and recording device for video, (now days a camcorder) a tripod, a microphone to record voice, (now often

found right on the camcorder, though the quality won't be as good as a hand-held or lapel microphone), a person to operate the camera and the person speaking into the camera.

The advantage to using this method is cost and efficiency. Modern camcorders are very easy to use, don't cost a lot and are readily available.

Another advantage to using this format is that it can be done almost anywhere.

The disadvantages are that visually, you are basically dealing with a talking head. All of the performance pressure is on one individual. It requires that the topic and the speaker are very interesting to the audience because there is little visual interest with just a talking head. If you have a boring or poor speaker, and/or an uninteresting topic for your audience, there is a very high probability your audience will tune out physically or mentally. This means you fail to get your message across.

The lecture can be made visually more interesting by doing in different, but appropriate locations.

The Interview

The Interview format is very popular on television, and is used in a variety of ways. The interview can be used to entertain audiences. Examples include The Daily Show, The Tonight Show Late Night and many others. The interview format is more often used to inform audiences. Examples include Meet the Press, Face the Nation, Good Morning America and many others. The interview style is also used a lot in educational videos. .

Its advantages are its low cost and flexibility (you can interview someone almost anywhere). Like the lecture it requires only a camera, recorder, tripod and microphone. Sometimes you will need extra lights. Another advantage is that a performance pressure is spread between at least two people. Anyone who would otherwise fail on TV because of

nervousness or lack of speaking skill, can succeed presenting information if a skilled interviewer is asking the questions.

This leads us to the disadvantages, which include the need for a good interviewer. This person must be able to ask the right questions in a way that puts people at ease. The interviewer may also wish to attack the person being questioned, but even then must know how to do it well to be successful.

Another disadvantage is that generally this format consists of mostly talking heads for visuals. The producer runs the risk of being visually boring. Lively questions and answers can help make up for this lack of visual variety and interest.

The added cost of another person, though not necessarily significant in many cases, but can be if you want a good one.

The interview can also be done almost anywhere.

Panel Discussion

The panel discussion format is a more sophisticated version of the interview. It usually consists of a panel of several “experts” on a given topic. They are directed in their discussion by a moderator. The moderator’s job is to keep the discussion lively and on topic.

The advantage to the panel discussion style of television is that the performance pressure is now spread among more individuals. Though you are still visually dealing with talking heads, creative angles and wider shots often break up the visual elements to make it a little more interesting.

The disadvantages include a higher cost. This production format usually requires a studio because multiple cameras, microphones, TV monitors, a switcher, camera operators, sometimes lighting, and a director, as well as a controlled space drive up the cost of production.

The Off-Camera Narration

This format is sometimes called the documentary style of television. It consists of a narration about a subject by a person not usually seen by the camera. Every word of this narration can then be reinforced with pictures and not just pictures but color pictures and not just color pictures but color moving pictures. To that you add natural sound, sound-effects and even music to set a mood or tone. The result can be one of the most successful means for conveying information and opinions ever invented.

Whether your message is a new idea or concept, sales information about a product or service, political or religious opinions, or simply to entertain, this format can be a powerful tool to get than job done. The advantages are obvious; it is visually much more interesting to watch. The sound track is often much more interesting, too. It is certainly a flexible format to use.

The disadvantages are fairly obvious. Because more people are required and every shot is carefully planned, this style also requires more time. It is often more expensive. Writing and shooting the video are just part of the process. Post-production (editing) requires more time, more equipment (although modern non-linear computer-based editing systems have substantially reduced editing equipment requirements), and an additional skill set besides writing ability and videography skills. Editing also takes time. All of these factors drive up the cost of production.

Careful planning can help reduce the costs, but the planning also requires some additional time and talent.

The Role-Play or Dramatization.

This is the format with which we are most familiar. There are numerous examples of this found on television today. Sitcoms and crime dramas seem to dominate our program schedules.

The role play format advantages are significant. When good actors and actresses portray roles in a convincing way, from a well written script, the audience soon identifies with the characters being portrayed. When that identification process is complete, the author can sell almost any idea, concept or product that he or she wishes.

Unlike the first three formats, the role-play format is visually more interesting. Well written dialogue adds to the audience interest. Because of the higher level of visual and sound, it is often easier for an audience to comprehend, understand and remember a message, whatever it is.

The disadvantages are significant as well. The higher production values make a role-play program much more expensive to produce. It requires good talent, which costs money. This format also requires many other support personnel, more sophisticated equipment and materials, including props and extra lights, etc. All of these elements require the producer to reach deeper into his/her pocket.

Of course, this kind of production requires more time as well.

The producer must weigh all of the advantages and disadvantages of each format when deciding which to use.

Keep in mind that expense is an important consideration for all productions, but must be balanced against what importance the producer and his or her backers attach to the message. Many successful producers employ a combination of several formats to create their programs. This combination of formats almost always enhances a given production.

In general, whatever format(s) you choose, the process comes down to good story telling. You have to know what you want to say before you can say it. This is a rule that only makes sense. If you the producer, are not sure what your message is, how can you expect to convey it by way of the television medium?

When writing for television, I recommend that you write down on paper a verbalization of what you want to say, as if you were going to tell your story to a friend. It is the best way to begin.

From here, there are probably many different ways you can tell your story. Some people like to outline the topic, others will just sit down and begin writing, going back over the completed story to change things around, or re-write whole completely. When two or more people are writing, a different dynamic comes into play. I suggest you do what is comfortable, but most importantly, get it down on paper (word processor file) and then massage the words in whatever way makes the most sense.

In the case of an interview or panel discussion, the scripting process may only consist of a set of questions. A game show could also consist of questions. In all cases a written plan will always make the job of shooting easier, and most assuredly make the editing process easier.

At this time we must point out the importance of the style of writing for television. There are two basic styles from which to choose. Newspaper stories, magazine articles, and books (both fiction and nonfiction) are written for the eye. Writing for radio and television on the other hand is different in that the author writes for the ear. Let me explain:

When a person reads a newspaper, for example, and he/she does not understand all the details that have been put into a sentence, the reader can re-read the sentence as often as necessary until understanding is achieved. When that same person is watching TV, however, if a complicated sentence is read to him/her, the viewer only gets one opportunity to hear it. This is also the case for the listener of a radio program. The duty then of the author is to insure that the information is presented in short, simple and clear sentences so it can be readily understood the first time it is heard.

The author of a radio or television broadcast must also set up the listener so that he/she is ready to receive important details. For example, in newspaper style the writer might relay information in the following style: "John Smith, 60, mayor of Podunk, told members of the city council last night, that he is resigning following the last meeting of the current fiscal year which ends June 30th."

Using the broadcast style of writing, one would want to convey that the mayor is resigning and that resignation will take place in six months, so re-written for an evening broadcast it might read as follows:

“Tonight we learned that sixty-year-old mayor John Smith will resign in six months. His resignation will coincide with the end of the current fiscal year. Smith made the announcement to the city council. “

For a morning newscast it might sound like this:

“This morning, residents are waking up to the news that 63-year-old mayor John Smith will leave office in six months. His announcement came last night. He has timed his departure to coincide with the end of the current fiscal year on June 30th.”

What have we done?

First of all, because television and radio news offer immediacy you set up the listeners to know that something important happened very recently. In the case of the evening broadcast, it happened “tonight.” Next we eased the viewer into the detail of the mayor’s name by preceding it with his age and title, followed by his announcement. Next you told the listener when it will take place and tied it to the current fiscal year. Finally, you explained to whom the mayor made the announcement. In this example, we also broke down the longer sentence found in the newspaper into shorter sentences.

With the morning broadcast, Since the event didn’t happen all that recently, but you still want it to be immediate, your lead phrase is “people are waking up to the news.”

Another example of writing for the ear is the use of numbers. The human brain which can retain about 70 to 80 percent of the information it receives through the eye will accept detailed numbers as read. For example: 1,043,221 when written for the eye is acceptable. However, if read on the air, that number would be difficult to remember. So a television or radio news writer would change that detailed number to read “slightly more than a million” or “a little less than one-point-one million,” or “more

than a million," or "just over a million." The ear will accept those rounded-off numbers and allow the brain to more readily absorb and retain them. These are just two examples of the differences in writing styles for print and writing for the ear.

Now let's talk about another concept when writing for television.

Think in terms of pictures when you are getting ready to write your story. Because television is a visual medium, try to write about things that you will show as well. Then when you begin shooting, you also want to remember to look for pictures that are not only pleasant, but contain action. Remember television and video is an action medium. Otherwise still photos will do.

I like to use the example of a fire that took place in Clear Lake, Iowa some years ago. When CBS News Bureau in Chicago found out that a local television station had video of the fire that destroyed a condominium, they were willing to spend as much as \$5,000 to get that video on the CBS Evening News. They used only 18 seconds of the video. The bureau chief in Chicago explained it this way: "They love flames in New York."

One has to ask why. The answer is - there was not only drama in those flames, but exciting action as well.

Some documentaries rely heavily on the sound or/and or narrative to tell the story. Others need little or no narrative. The same is true of some role-play videos. Dialogue is minimal or non-existent. However, these two formats do rely on sound. Music and natural sound convey part of the message with a detailed narrative video, and in the case of minimal narrative, natural sound recorded with the pictures and music take on a more important role.

Having moving pictures with natural sound means a narrative need not be as descriptive. Music also reduces the number of words needed to set a mood.

Of course, with a lecture, interview or panel discussion, sound is very important. Remember the majority of information we get from television is through our ears. We will talk more about this later.

Writing effectively almost always means writing economically. Use as few words as possible. That is especially true when writing for television and video because time is so important. Remember writing is a skill that improves with practice. You usually have less air-time than you need to explain yourself, so it is a must that you learn to edit your copy down as far as it can go. This general rule if applied, even when you have lots of time to fill, will get you into the habit of using your words most efficiently.

Here are some simple rules to follow when preparing a script for broadcast:

- (1.) Keep it as short (concise) as possible.
- (2.) Eliminate redundancies (repetition of certain words or phrases).
- (3.) Use a variety of words when you have to refer to the same thing over and over. (Example: A boat can be called a ship, vessel, or a watercraft.)
- (4.) Keep sentence structure short and your ideas in these sentences simple.
- (5.) If the subject matter is long and complicated, it's a good idea to outline your subject matter before you begin.
- (6.) Use sentences with active rather than passive verbs. It is also acceptable to be descriptive but don't overdo it. Let your camera describe the colors and/or the mood; your narrative doesn't have to do so.
- (7.) When writing for broadcast, especially news broadcast, use the present and future tense as opposed to the past tense. (Example: The mayor "says" rather than the mayor "said".) The broadcasting medium's biggest advantage over the newspaper is that it brings you the story now, not a day later. Exploit that advantage in your writing.

Not all video or television scripts would necessarily require you to follow this last rule, but remember, keeping your audience interested may require that you at least leave the impression that this information is very current. Therefore, it may be well that you follow this last rule anyway.

One of the rewards for television writers is see their words come to life on the screen.

Shoot the Video

Now it is time to begin the process of acquiring the video for your show.

Shots List

Once you have a completed script, you have an idea of the video you will need to cover that script. As soon as your final script is ready, begin making the shots list. The shots list is simply a list of the shots you will need to complement your script. You will not only describe the subject of each shot, but it will be a good idea to include whether it is a close-up, wide-shot, etc., so that when you get in the field you will know how to set up each shot. The shots list can be put right on the script in the left margin or can be a separate document. You may want to make several copies.

There are a number of ways to approach this. If you are producing a game show, you might have a list of three or four standard shots that help the director during the live recording of the program.

In the case of a documentary, you may have a detailed list of shot needed at every location where you are shooting video. On the other hand some documentary producers don't write a script until after they have shot their video. This is often true when shooting for a news broadcast as well. The idea is that the pictures or the situation dictates what will be put into the narrative. Even then, having an idea of what must be shot is always helpful and writing it down helps make sure you get all that you need while on location.

The Shoot

Now it is time to shoot your video according to your shots list. This could take quite a lot of time depending on the shots you need for your script. If the shots are difficult to arrange or dependent on certain conditions, you will probably have to create a shooting schedule.

As the video producer, part of your shooting schedule is already accomplished if your interviews have been done. This shooting schedule will help you budget your time and resources as well as people.

When you are out on location try to remember a few important things. One is that you are working in a visual medium that requires as much action as you can find. Action inside the frame of the picture is what will keep your viewers' interest, and that interest is so important to the success of your project.

Look for interesting angles while shooting. The same camera angle in scene after scene will bore your audience as much as or no action. Shoot from low angles and high angles as well as eye level.

The same is true with picture composition. A medium shot in every scene is also dull. Look for opportunities when a close up is appropriate or a wide shot conveys important information. Shooting scenes using trees to frame a picture or where close-up objects inside a frame help draw the eye toward important objects farther back in the scene.

Another technique that adds visual interest is a moving shot where the camera follows a person or other moving object while rolling past foreground objects. This heightens the sense of movement. It is important that when you do a moving shot, the camera must move smoothly, without bumps and jerks. These detract from the effectiveness of the shot.

A habit to avoid is too many pans, zooms in and out, tilts up and down and so on during a scene. Just because your camera can zoom and your tripod will allow you to pan back and forth, these techniques should be used very judiciously. Remember when it comes to pans, tilts and zooms, less is more. You should have a very good reason for doing these things

while a scene is unfolding. They should be used to accomplish a specific goal, like leading the eye to somewhere in the scene or revealing more visual information during a scene to heighten suspense. Just because you can doesn't mean you should.

Finally, I want to stress this point: Always use a tripod when shooting video. There is nothing more distracting to a story than having jerky camera movement that is not called for in the script. There will be times when shooting with a tripod is not possible, but those times are very few. When you find yourself in that type of situation, try to shoot video on a wide shot as possible because a lens that is zoomed all the way in magnifies unwanted camera movement. Another technique for reducing camera movement when not using a tripod is to lean against a solid object like a wall or tree. This will help, but is no substitute for a tripod.

Post Production

Post production or editing is the process of arranging desired raw video into a finished production according to the script or plan. In some situations editing is pretty simple. If you are producing a game show or sitcom for example, you may be assembling large segments of video into a pre-determined time frame. Often the hardest part of creating the video is in the shooting, where a scene plays out with few breaks in the action.

Other video content will be more complicated to edit. A documentary, for example, or a role play program that is shot with one camera will be more difficult to put together. It will require some specialized knowledge and skill. Once mastered however, the editing can be some of the most creative work you do while producing video content.

To help you understand the concept of video editing, we are going to take a journey back into time and look at the process as it was performed using tap-to-tape editing. No doubt there are production houses or operations around the world that may still use this method, but for the most

part, it is a thing of the past. However, by examining the technique used then, it may help you understand modern editing processes.

Below is a block diagram showing a typical videotape editing system.

This is called a linear editing system. It is also referred to as a cuts-only system. That means the editing process builds in a straight line, one scene after another and that the scenes change is a “cut” with one scene ending and another beginning.

It shows the basic equipment needed for this type of editing. It goes without saying, there are more sophisticated configurations, but the system shown in the following diagram will get the job done with the least amount of equipment. Study the diagram one below and then refer to it as you read the description of the editing process.

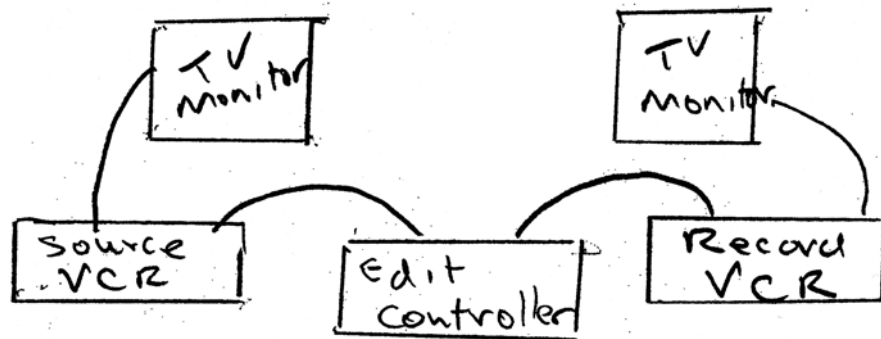


Diagram 1

Note that the editing set-up is symmetrical meaning the left half of the diagram is a mirror image of the right half of the diagram. In other words, there is two of everything in the system except the editing controller. However, even though there is only one controller, it is divided into two halves which are identical.

The next thing to remember is that the left half of the system is the source side, the right half is the record or master side of the system.

We will begin with the editor controller. The controller is situated in the middle (in this diagram), and is basically a mini-computer that allows you to electronically designate your entry edit points on both tapes, and the exit point on one side or the other. The edit controller, after making the edit points according to the operator's instructions, then allows the operator to preview the edit without actually making the edit. Adjustments of entry and exit can be made if necessary. When the operator is satisfied that these edit points are what is desired, the editor makes the edit, sending the video scene from the source VCR to the record VCR.

Next we have the two VCR's themselves. One is the source deck; the other is the master deck. It is important to remember that these are NOT ordinary commercial type VCR's. They are specially designed VCR's that have special and important functions so that the editing process can be accomplished. These VCR's are also generally very expensive because of the special functions they perform.

Next there is a bank of two TV monitors above the edit controller.

Each monitor can be color, or the source side can be black and white while the master side is color. Even though it is not absolutely necessary for one monitor to be color, it is highly recommended so that the quality of the color can be judged by the operator as he or she is editing. The master side of the system is the most logical place to have the one color monitor if only one is used. The left monitor should monitor the source video, and the right monitor should be set up to monitor the master video.

The only things left in the system are the speakers that monitor the sound on each side of the system. One could even use headphones if speakers are not practical to use. The speakers or headphones are used to mix or blend the narrative, natural sound and/or music on the master tape. In all videotape formats there are two tracks of audio and one track of video. The mixing part of the process blends the music or natural sound levels to be heard but not override the narrative or dialogue. There are times that you will want the music or natural sound to come up to full, but that is generally done when the narrative or dialogue stops.

Now it is time to talk about the editing procedure itself. Before we say anything else, it is well to remember that the editing function is an additive process. In other words, when we say that we will edit out this or that scene, we are not being completely accurate. What we are really doing is taking all of the acceptable video we have shot and adding those scenes to a blank videotape on the master side. Any scene(s) not wanted are simply not transferred to the master tape.

There are two ways to edit videotape. The first is called assembly editing. It is important to remember that all videotape has one video channel and two audio channels and a control track. Refer to diagram two below.

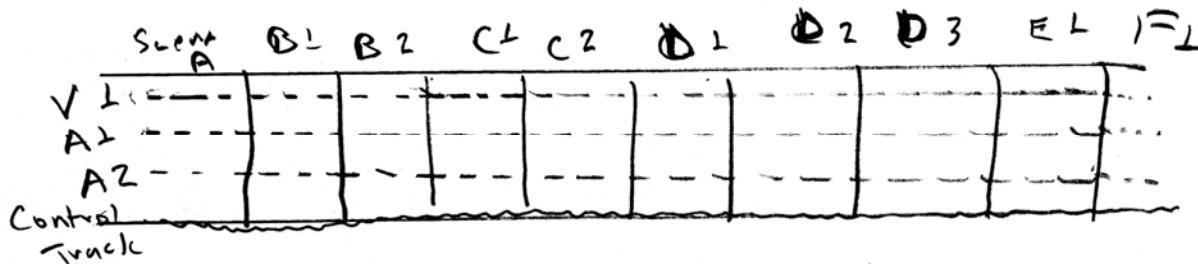


Diagram 2

Whenever someone records onto a blank videotape, a control track is being recorded along with a video track and audio on both audio tracks. When we assemble edit, we are transferring all of the information, including control track, video track and both audio tracks from videotape on the source side to videotape on the master side in the sequence we desire.

For example, let us say that you have gone out on your shoot and have come back with a raw videotape containing the scenes you will need in the following order. Your tape would have electromagnetic information in a configuration that might look like diagram two. (Diagram two is only a representation, not an actual picture of what is recorded on videotape.)

Notice you shot two versions of scene B, three versions of scene D, one version of scene A, two versions of scene C, and one version of scene

E and F, in that order. You want to edit the videotape, using the best version of each scene, and putting them in order A-B-C-D-E-F, as shown in diagram three.

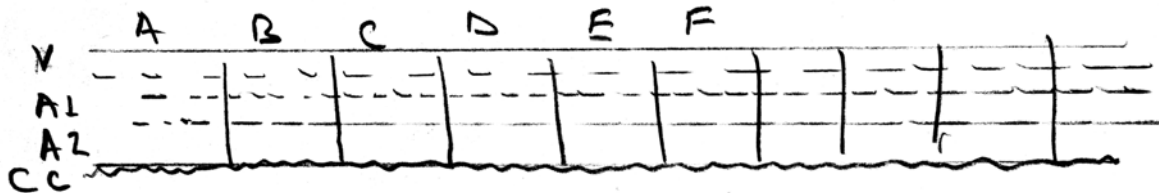


Diagram 3

When you edit using the assembly-edit method, you are simply transferring both channels of audio, the video and the control track from the source side to the master side. You edit out one version of scene B, two versions of scene D, and one version of scene C. You are also rearranging each of these scenes in order. The way you are editing out the unwanted video is simply by not transferring the unwanted scenes from the record side to the videotape in the record side VCR.

More specifically here is what we are doing: On the left machine, the source side of this system, we found the beginning of scene A, in this case there is only one scene A. We then mark it electronically by pushing the entry and set buttons on the controller at the same time. This marks the spot on the tape where the edit will begin.

Next we find the spot on the tape where scene A ends. We then mark that spot electronically by pushing the exit and set buttons on the source side of the controller. Now on the master side of the machine we find the spot on the tape where we want our program to begin. We mark that spot by pushing the entry and set buttons on the master side of the controller.

We do not mark the exit side of the master because we have marked the source side. If we had not marked the exit on the source side, we could

advance the tape to where we want the scene to end and mark the exit on the master side. The rule is to mark the exit point on one side or the other but not both. Why? Well, it is only logical. If you tried to fit a 15-second scene into 10 seconds of tape on the master side, it simply would not fit. Therefore, the computer only allows you the option of putting in an exit point on one side or the other but not both at the same time.

It should be noted here that an exit point entered on one side or the other is not a requirement. One would only have to put the two entry points in and then as the edit was being made and the scene is past where it should end, the edit stop button is pushed. This does not give a precise exit point, but then when the next scene is edited in, one simply begins the next exit where the last scene was supposed to end.

The advantage to having the option of putting in an exit point is that you can fit a scene into a specific place without covering up previously edited material that follows that scene. By being able to stop the edit at a certain place, this previously recorded material is protected.

Getting back to the editing procedure, we now have our entry and exit points marked on the tapes. We now want to preview our edit to see if it is what we want. We do this by hitting the preview button in the lower center part of the controller. Both machines now begin backing up. They back up to a point five seconds before the edit points on both tapes. This is known as pre-roll. This allows both machines to get up to speed before the actual edit is made. By doing this, the editor eliminates one of the biggest causes of rolls or glitches in the master tape. After the pre-roll, both machines then begin moving forward and when the marked edit point is reached, the machine shows what the edit would look like. The preview mode allows the operator to look at the edit and evaluate it without actually making the edit.

If the operator decides that he/she likes the edit as is or re-sets the edit points to get them where he/she wants them, the operator can then actually make the edit by pushing the preview and edit buttons together. The machine will then go through all of the same motions as during the preview stage, but this time the edit will actually be made.

What you are looking for is the video in the TV monitor on the right side. That is the monitor for your master tape. It will show you what is going onto your master videotape.

The next step in the assembly editing process is to find the beginning of the right scene B. You shot more than one version of scene B, so you want to find the good one. Go to the beginning of that scene. Push your entry and set buttons on the left half of the editor controller. This marks the beginning edit point on that side. Now on the master side, put the tape at the end of scene A. This is where you want scene B to begin. You mark it by pushing the entry and set buttons on the right half of the edit controller.

Now you can go back to the source side of the machine and move the tape forward until you come to the end of scene B. You push the exit and set buttons on the left half of the edit controller. This marks your exit point. You can push the preview button in the lower center part of the controller. Watch the monitor on the right side. If the edit is what you want, you can push the preview and edit buttons together. The edit will take place. If you are not happy with the edit, you can make the necessary adjustments until you are happy with it.

The next step is to go to the beginning of scene C on the source side (left) and mark it as before. The editing process is then a repetition of the above steps until all of the scenes are edited on to the master tape in the sequence desired.

One must remember to push the assemble edit button near the top of the controller before assemble editing is begun.

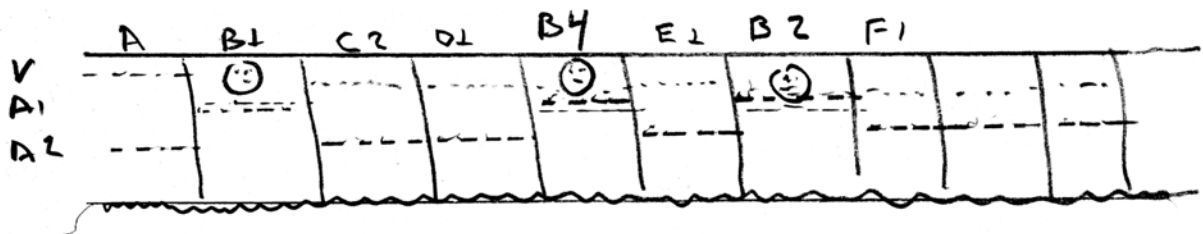
The other editing method is known as insert editing. The operator simply pushes the button marked insert edit near the top of the controller when this method is used.

Insert editing is different from assemble editing in this way. It also is an additive process, and scenes A-B-C-D-E-etc. are taken from the source side and added to the blank tape in the master side building the final production scene by scene like a daisy chain. It is different in that the

editing of the video is done by breaking down the video tape into its individual channels. Let me explain.

As you may recall, the video tape has one control track, one video track and two audio tracks. We put a blank tape in the master or record side of the editor. For insert editing, the master tape has to have an unbroken control track so the operator has to record black on the blank tape first. Recording black also records silence on both audio tracks. Any videotape prepared for insert editing in this way is commonly referred to as a blacked tape.

What we do when we insert edit is to break down the various channels and edit them separately. In other words, we would first put down our narrative track on audio track two, inserting interview clips (if we have any) as we go along. When we transfer the interview clip or "sound bite," we are transferring the talking head and the audio that goes with it on track one in this example.



Black T-Head Black Black T-H Black T.H. Black Black Black

Diagram 4

As you can see in the diagram four above, our narrative begins on audio track two. We then come to our first sound bite (interview segment, also known as a talking head), We see the talking head and hear the voicer on audio track one. After that, our narrative begins again on audio track two, until we come to the second sound bite. Again, we insert the bite, with audio synced with the video and then pick up our narrative again on audio track two until the next bite. We keep doing this until end of the program.

As illustrated in Diagram four, if we were to go back and view the tape so far, we would hear the narrative and see a black screen until we

get to the first sound bite. We would then see the talking head and hear the voice of that person until we got to the end of the bite; then we would hear the narrative again while viewing a black screen as before the bite. When we get to the second bite, we would again see the talking head and hear the voice of that person until the end of the bite. We would then go back to a black screen as we hear the end of the narrative to the end of the program.

Now to continue the editing process, we can go back to the beginning of the tape and start putting down appropriate video to reinforce our narrative. On channel one we can use the natural sound (recorded with the video) as we are putting down the video on the master, or we can save this track to go back later and put down a music track.

Each time we make these edits, the track that we want to work on must be punched up from a row of buttons near the top of the controller. Remember, if we are assemble editing, we push the assemble edit button; if we are insert editing, we push the button(s) of the track(s) on which we are editing.

Caution: If you black a tape in preparation to insert edit on to it, you must stay in the insert edit mode. If you go to assemble edit mode and record onto this tape, you break the continuous control track and will have a glitch at that point in your tape.

After completing the editing of all your “B-Roll” also known as cover video on all the blacked portions of the master tape, it should look like the illustration in diagram five below.

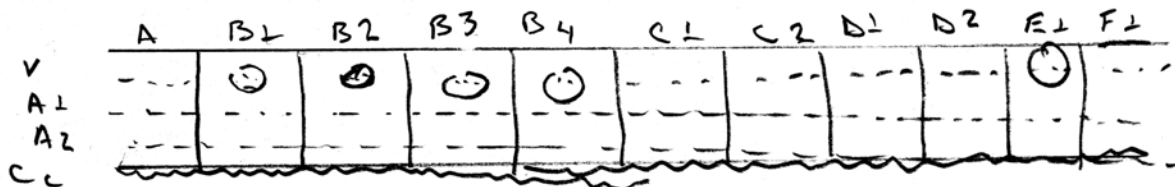


Diagram 5

Again, each of these tracks was edited separately, and then the other tracks were inserted where appropriate. Hence the name, insert editing.

Keep in mind that every maker of electronic equipment that produces video editing equipment will have machines that look different; but the basic functions of an editor will remain about the same.

Remember, this is known as cuts-only editing. At the edit point, one scene ends and you cut to the next scene. In linear editing, creating transitions between scenes is more difficult. Examples of transitions would be a fade or cross-fade, where one scene dissolves into the next, or a wipe, where one scene wipes across the screen revealing the next scene. There are many variations of wipes too.

This method of adding transitions between scenes is also referred to as A-B Roll editing. In a linear editing system the equipment used would be configured much like that shown in Diagram six below.

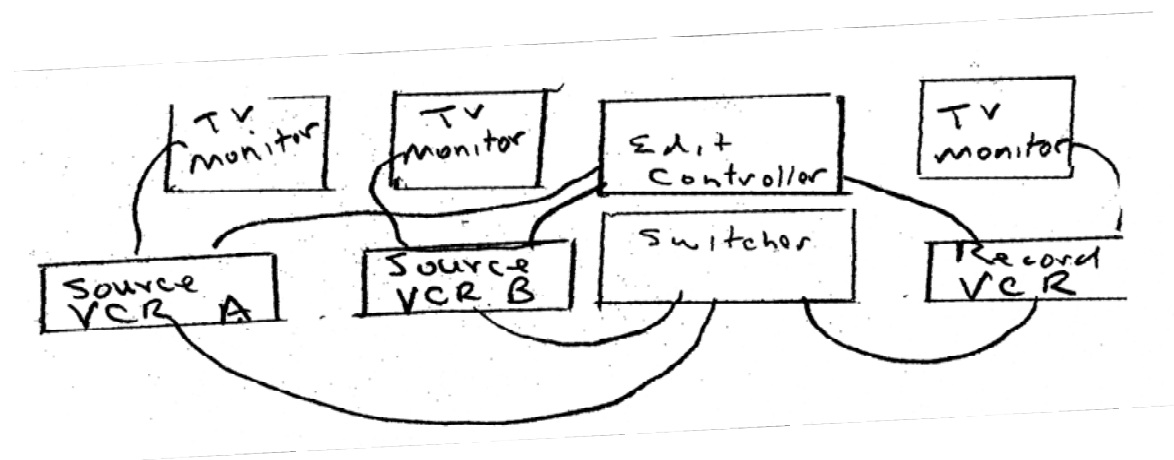


Diagram 6

The configuration is much like that in diagram one, but adds another source VCR (giving you an A and B source) and another TV monitor to go with the second VCR. It also adds a video switcher. The switcher is the device that makes the transitions possible.

The way it works is fairly simple. You record video for scene A on one tape and video for scene B on a different tape. Then during the edit

process, you cue up the tapes to the desired edit points. Scene A is cued in VCR A and Scene B in VCR B. When the edit begins, VCR A begins its roll, the output from A is punched up on the switcher, when it gets close to the point where it is ending you begin rolling scene B in VCR B. B's output is punched up on a different buss on the switcher. When you want the transition to begin, tape B is rolling and you dissolve (or wipe) from A to B, all the while recording on the master. As you can see in diagram six, the video (and audio) output of the switcher is what goes into the master recorder.

Once you understand what is happening during the editing process, you will probably be able to operate almost any editor.

Also keep in mind that in most situations, the editor is simply a technician following the instructions of the producer or director. This means that his or her ability to be creative in the editing suite is limited by the person for whom he or she is working. On the other hand, if the editor is the same person as the producer/director, he or she has a great tool for creativity.

Since all of the elements of the video process come together in the editing phase, controlling the flow of each of the elements is what the editing function is all about. How different shots are used, how the music is blended into the production, and how sound effects and dialogue are incorporated, along with the style and pace of the edits, are all artistic and technical aspects of the editing process. In the right hands, this editing tool can enhance a video production; in the wrong hands, the tool can destroy the same production.

For this reason, whoever is making the editing decisions, whether it be the producer, the director or the editor, they must be made by someone who understands what is going on and who can use the various elements to their maximum potential..

Other post-production functions would include creating titles and graphics to edit into the production. Titles and graphics can be done in several ways. These functions were done by hand in the early days of

television, but are now done using a character generator and/or graphics generator.

Let's fast forward to the present. The art of writing for television and video have not changed much over time. However, the technology available for acquiring (shooting) video has changed dramatically over the past 30 years.

Fifty years ago, it took a step van the size of a bread truck to hold the camera and recorder needed to gather video in the field. This function, by the way, is often referred to as ENG or electronic news gathering. The cameras were fitted with large vacuum tubes, the lenses did not zoom, you simply had three or four rotating fixed lenses to get a close-up or wide shot and the recording medium was four-inch wide videotapes that were held on big reels on a machine as large or larger than a refrigerator.

Contrast that to today's technology. You can hold all the equipment necessary for the function described above, in the palm of your hand. In fact, you no longer even need the tape. Over time, the camera and recording functions were reduced in size and then the two were combined into the camcorder. The tape sizes went from four inch, to 3/4 inch U-Matic, to 1/2 inch VHS, and to various other sizes and formats, eventually becoming digital tape. Analog video acquisition hardware that was once analog is now almost exclusively digital. Now, camcorders record right on to a hard disk inside the camcorder eliminating the need for videotape.

So too, editing has changed dramatically. Instead of the linear editing described above, one now has a choice of many software packages that allow you to edit digitally on a computer. With a wide variety of software choices come a wide variety of price tags as well. Avid Systems, Macro System US, Adobe, Apple and Windows are just the tip of the iceberg when looking for a good editing software program.

Editing on a computer is commonly called non-linear editing. As you may recall, linear editing means you build your content on a master videotape in a straight line moving forward. Once a scene is recorded onto a tape, it cannot be moved on that tape. This means that if you have a tape

with scenes A, B and C in that order, you cannot remove scene B and close the gap between A and C. You cannot drop a different version of Scene B (by recording over the original scene B) if the new scene B is longer or shorter. The only way to re-edit is to eliminate Scene B, by replacing it, and then making all subsequent edits again.

Another disadvantage of linear editing is loss in video quality during editing. Your raw footage on the tape in VCR A is first generation. The edited master will be second generation, meaning it has as much as 17 percent loss in quality. Any copies made from the master are now third generation, with even further quality loss.

Digital non-linear editing solves these problems. When editing video on the computer you would have a similar timeline as illustrated in diagram five. However, if you want to take out a scene and replace it with another, it's easy. Take out the offending scene and replace it with something better. Add scenes with ease. Take out scenes and close the gap between adjacent scenes.

Transitions are easy too. Most programs give you a list of transitions to choose from. Pick the one you want and drop it on the edit point. Done!

Titling is easy. You usually have many fonts and sizes and colors from which to choose. Create the title(s) you want and place them on the timeline, sometimes referred to as a story board, wherever needed. Many non-linear edit programs also allow multiple video tracks allowing some very nice effects. And these high-end software packages often allow many more than just two audio tracks so blending (mixing) sound effects, music, narrative and natural sound gets very sophisticated.

The one thing they have in common is the ability to build a finished video program, combining one or all of the following elements using narration, dialogue still and moving pictures, titles, lighting, sound effects and music, to create a story. How effective you are telling that story is limited only by your imagination and perseverance.

Good luck! It is an exciting journey you are beginning.

It can be fun and rewarding to create your first video. I encourage you to get started

Glossary of Terminology

Analog	Electronic signal that is measured by voltage and amps and not by zeros and ones.
Apple	Computer manufacturer that created computers that operated with a different system than that created by Microsoft.
Aspect Ratio	The dimension of a TV monitor. Standard TV aspect ratio is 3 units high by 4 units wide. The wide screen monitors have a ratio of 9 units high by 16 units wide.
Audio Board/Mixer	Device used to mix more than one audio sources such as microphones or CD music to desired levels and outputting them or recording them.
Audio Monitor	A speaker.
Audio Track	An audio signal recorded on an type of medium, such as audio tape video tape or computer hard drive.
Battery	An electric power storage device.
BNC Connector	A type of connector, usually for video, usually on a cable that has a twisting and locking capability when attached to a device.
Camcorder	Combines' the optical to electronic conversion of a signal with the electromagnetic recording feature of a VCR into on smaller device. Early portable video recording required a fairly large camera connected to a fairly large and heavy recording deck connected by thick heavy cable. The camcorder made the whole system smaller, lighter and more portable.
Camera Plate	A metal plate that attaches to a camera head and accepts a video camera and locks it into place using beveled metal jams and easy-lock metal handles. It allows a camera operator to put on and take off a camera from a tripod quickly and holds the camera securely.
Casablanca	A proprietary system of hard ware and software developed by Macro Systems, a German company and marketed by Macro Systems US based in Boulder, Colorado. It was and is a very easy to use non-linear editing system that uses a computer for video editing and nothing else. Casablanca was the name for the original hardware device, that featured a removable hard drive system that eventually evolved into larger and larger hard drives and more and more sophisticated software. In its early days it was used a lot in schools and small businesses that were just getting into television and video production. Its best feature is that it is easy to learn how to use when compared to other software packages.

Cathode Ray Tube	A large vacuum tube that acts as an electron gun. It shoots electrons the narrow end of the tube toward the glass coated wide end of the tube. The electrons are shot in a horizontal paper across the screen at a rate of 525 lines per second. In HD TVs and monitors the scan rates is higher and the pixels created are denser (closer together) making the picture at a higher resolution. the 525 lines per second was established by the National Television Standards Convention at a meeting in 1929.
Character Generator/CG	See tilter
Close up	A scene composed by being as visually very close to a subject showing a lot of detail and leaving surrounding elements out of the frame.
Cut Edit/ Cross fade	A cut refers to the transition of a scene in which the second scene is replaced immediately by the next scene. A cross fade or dissolve allows one scene to die a way gradually while the second scene fades in gradually.
Digital	A system that uses a signal measured in bits and bytes or zeroes and ones rather than a signal measured by current flow.
Dolly In/Out	The act of physically moving a camera closer or farther away from an object in a scene usually when the scene is being recorded or live. For a smooth dolly often times the camera is placed on a track and rolls in our out on wheels. A dolly can also refer to a device on wheels that allows movement, but without a track.
ENG/EFP	Electronic News Gathering and Electronic Field Production describes shooting video and audio on location away from a studio.
Final Cut Pro	A computer software package for editing video and audio developed by Apple for the Mac.
Fire wire or IEEE 1394 Cable	Describes a type of cable that transfers both video and audio signals in the form of computer data, between devices. Developed by Apple Corporation for Macintosh computers, and is in wider use by the video industry.
Focus	Adjust lens(s) to create a clear picture with sharp lines.
Hard Drive	A storage device for computer signals.
Lens	The device on a camera that uses glass elements to capture the visual information about a scene sending it to the tapes or chips of a camera for further processing.

Lens Cap	A cap put over a lens when not in use to protect the surface of the lens from dirt or damage.
Long Shots	See wide shot.
Media 100	A non-linear editing system.
Medium Shot	A video shot that captures a scene somewhere between the farthest and closest point possible by the lens.
Non-Linear Editing	Editing video using a computer.
NTSC	The standard for a scan rate of 525 lines per second. The scan rates and FPS were adopted by the United States and other countries. The NTSC standard will soon be replaced by the HDTV or just plain digital standard by the end of 2009.
Pan Left/Right	Moving the camera lens from left to right without moving changing the position of the camera.
Pedestal	Similar to a tripod in that the camera rests on the pedestal to be steady, but usually found in a TV studio. It can raise and lower the camera and is usually done with hydraulic lifts so the move upward or downward is smooth. Also describes the movement of a camera up or down during a shot.
Pixels	Pixels are the points of light that makeup the visual picture seen by the viewer. When a cathode ray tube converts electrical signals to visual signals, it is done by shooting electrons from the narrow point of the tube to the coating on the inside glass of the tube.
Power Supply	In video and television it refers to an external device that powers a piece of equipment. It converts AC voltage from the power sources to the DC current at voltages needed by the device.
RCA Connector	This type of cable connector that has a center post with a metal ring around it that simply pushes into the connection on the video or audio device. Easy on and easy off, but these connectors can cause problems if a device moves and the connectors disengage.
Rendering	Rendering describes the action of a software program to convert bits and bytes into electromagnetic signals. When a video is edited by a computer, after all the instructions are inputted, it must be rendered before the video and audio can be seen and heard as desired by the operator.
RF	Means radio frequency and describes electronic signals that transmitted through the airwaves within a certain range of frequencies that carry both visual and audio information that can be seen and heard using a TV tuner. RF signals also describe the combined video and audio signals that are carried on a cable from either an antenna system or cable company through you wall to your TV tuner.

RF Connector	A cable connector that screws on to appraise receptacle much like a nut screws on to a bolt.
Software Editing Package	Software used on a computer to edit video and audio previously recorded.
Speakers	Take electronic signals and converts them to audio signals that can be heard by the human ear.
Special Effects	Usual refers to different ways of manipulating a video signal. There are other meanings.
Still Frame	A scene in a video that has no movement in the visual content. If a photograph is used that would be considered a still frame. Many editing devices and software packages allow you to take one frame of video and hold it over time.
Switcher	Usually refers to the device that mixes the video signal while broadcasting live or during recording. Sometimes refers to the operator of that device.
Talent	In TV industry, usually refers to the person(s) who perform on camera. A news anchor or reporters are considered talent. Camera operator or director and most other people involved in a show are not.
Tape Format	Refers to the way a program is recorded and stored. VHS is one format, 3/4 inch is another format using 3/4 inch wide tape. Another format would be Beta SP. All have differing advantages and disadvantages.
Teleprompter	A device consisting of a TV monitor or display that uses one way mirrors and reflection to allow s talent to read printed copy while looki Apple ng at a television camera. Device mounts on the lens of the camera. Talent looks into the lens but sees a reflection of the copy as it is scrolled up while talent reads. Gives the appearance of the talent looking at the viewer while reading. Copy in imputed usually by a computer and the display is what is mounted on the camera lens.
Television Camera	A device that accepts an optical signal through a lens and converts it to an electronic signal. Early cameras used one or three tubes for this conversion. Modern cameras use micro chips.
Tilt Up/Down	Move the lens of a camera (point) up or down as appropriate to capture scan desired without raising or lowering the body of the camera.
Titling/Tilter	Titling is the act of superimposing letters or numbers over a scene or background. Device for doing this was originally known as a character generator, but is now most often called a tilter.

Tripod/Monopod	A device that uses three legs to hold what is known as a camera head on which a TV camera is attached so it can give a steady shot over time while recording or live. Monopod has only one leg and keeps a camera from moving up and down, but must be steadied by hand and is therefore not as good as a tripod.
Truck Left/Right	Moving a camera left to or right rather than panning left or right.
VHS/SVHS	A video format that was developed by Japanese Mutsuhito Electric, parent company of JVC and Panasonic. A consumer format mostly that used half inch wide video tape. SVHS also known as Y/C is a higher quality of video storage and uses cables that are different than BNC cables.
Video Monitor	Converts a video electronic signal from electrical impulses to optical signals by using a cathode ray tube. Modern monitors now use liquid crystal or plasma instead of cathode ray tubes. The monitor processes both video and audio separately, unlike a TV tuner that receives both audio and video in a combined signal. Many TV monitors have speakers and let the operator hear content, but the video and audio signals come in on different cables. Some TV monitors do not have audio capability.
Video recorder (deck)	A device that records the video and any audio onto some kind of medium.
Video Track Waveform Monitor	An electromagnetic signal recorded on a medium that contains the video information. A device that measures the strength of an electrical signal.
Wide Shot	Shot taken of a scene that is zoomed out to take in most if not all of a scene provided by a lens. Also known as a long shot. Provides the most visual information.
Windows Media Player	A software package that allows video and audio to be played on a PC computer.
Wipe	Describes the transition from one video scene to another that replaces one scene for another using various patterns. For example a wipe can be done from left to right, or up and down, or a round pattern from the center moving outward, on the monitor screen.
Wireless Microphone	A system of small RF transmitter and receiver that allows the audio signal to be transferred to recorder or live without using a continuous cable to the device. The microphone is the transmitter while a receiver converts the RF signal to audio signals and passes it to the recorder or audio amplifier/mixer.

Zoom In/Out

Using a lens to get optically closer rather than physically closer/or farther away from an object. Zoom in gets you closer showing less of the scene but more detail of a subject. Zoom out takes you farther away, revealing less visual detail of a subject but showing more of the scan around it.

