Allow me to welcome you to Horry County Schools In-School TV Studio Training for the 2006-2007 school year.

Today's training will cover a variety of topics and not just the equipment that is in your studio. The goal of today is to help you create a good video product from your school, not to bombard you with an overabundance of technical/equipment information.

That being said, **the best way to know all of the details of your studio equipment is through reading the owners manuals, and experimenting with your equipment**. If your owner's manuals are lost or misplaced, you can find the owner's manuals to almost all of your products on-line and the manufacturer's web site. The owner's manual is truly your best friend for troubleshooting any problems that you may have with the equipment, as well as gaining insight to all of the equipment's capabilities.

…

As a note: Equipment is different for many studios as manufacturers upgrade or discontinue their products based on sales figures and changing technology. Because of this and the fact that new studios start in the schools every year, some studios have different equipment. We will be going over the equipment that **most** studios have today.

And also: Different schools have different needs, and because of that the order in which the equipment is wired together may change slightly from school to school. For example, a school that goes live with their morning show will need to have more capability to do a title than one editing it and putting it out later or the next day.

Additionally: For those of you who will have studios in your school for the first time, discuss with an assistant principal or the principal what it is you will wish to accomplish with your new studio. Knowing this beforehand will allow us to set it up in the most efficient way when all of the equipment arrives.

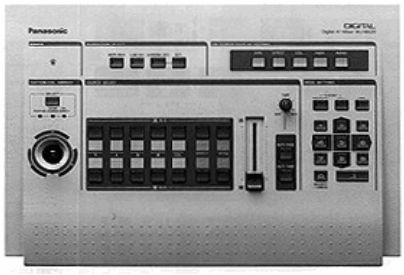
Here we will briefly go over the basic equipment common to all schools:

1. Camera – Most schools will have the cannon GL2

The canon GL2 camera is by far the best camera available to us with a mixture of high quality and ease of use. In the studio it will be mostly a flow-through device. Taken out of the studio, this camera can tape and playback into your editor.

To find out all that the canon gl2 can do, consult the owners' manual.

2. Video Switcher – You will either have an Edirol V-1 or a Panasonic WJ Mx20



This is how you will switch between your inputs sources during a live broadcast, if you are using more than one camera. The main output from this will go into either the TitleMaker 3000, your editor, or directly to the sprint system.

3. Audio Mixer – Mackie

These audio mixers are where the audio signals from your microphones, VCR, DVD, CD, computer, or any input you have in your studio. Each studio has different needs for audio,may not be inputting the same equipment as other schools. Output from this goes directly to the sprint system and the editor.

4. Titlemaker 3000 – all studios up to 2006 will have these

This will allow you to have title screens and credit screens and roll names and information over your video. This product has unfortunately been discontinued and there is nothing on the market like it for its price. The main drawback to this product is that the owners manual reads like an ancient latin text – absolutely hard to understand. I have a separate manual that I created in more user friendly form for this piece of equipment. Please email me at broessl@do.hcs.k12.sc.us if you would like a copy of this particular manual and I would be happy to send you the Microsoft word file to print at your convenience.

5. Mini DV Player

There have been so many different brands of mini DV player and so many different set ups that it is hard for me to generalize here. Basically, this can take a tape from the camera and play it through your system, or it can record to a mini dv tape for use elsewhere.

6. Microphones –

In conjunction with the audio mixer, microphones allows the people on camera to be heard.

7. Light kits –

Since the studio equipment is purchased by building construction and technology and very little input was from media services, there are a few flaws in the studios put together between 2002-5. Most of you were bought light kits with no bulbs…if this was the case email me and I will send you the types of bulbs you will need to purchase

8. Scan converter –

Items like an aver key – a scan converter is a piece of equipment that can take what's on your computer monitor and put it onto your tv

8. Monitors

Simply put allows you to monitor your various video (and sometimes audio) inputs and outputs

9. VCRS

Playback and recording devices – same way you use them at home

10. Applied Magic Editor

If you're not going live, this is where the "magic" is put together.

Basic Video Production Techniques

As we move on, I cannot stress this enough…**Read the owner's manuals for your equipment.** I have shown you most of what you will do with your equipment for, but the owners manual will show you how to troubleshoot any small problems that you may have as well as show you many advanced features you may wish to use as you become more adroit in your use of the studio….

A little more about your camera – General Camera Use.

Use the camcorder viewfinder to check for quality, not the LCD screen. Most DV camcorders have both a viewfinder (eye piece lens) and an LCD monitor. When first setting up for a shoot, it is important to check lighting by looking through the viewfinder rather than on the LCD monitor. The LCD monitor has adjustable brightness and contrast, making it possible to partially correct for bad lighting. This correction for the LCD display, however, does not impact what is captured to tape. The viewfinder more accurately reflects what will be recorded.

After checking through the viewfinder for appropriate lighting, use the more convenient LCD monitor for framing shots. Keep in mind the LCD may not be useable in bright sunlight. Also be very careful not to let direct sunlight enter the viewfinder lens. The lens can focus the heat and do permanent damage to your camcorder's viewfinder.

Auto Focus

Be careful with auto focus. Many camcorders provide you with the choice of auto focus or manual focus. Auto focus can be prone to error in a classroom environment, especially if the subject is surrounded by other people and objects. The camera may suddenly focus on someone's head sitting between the camera and the intended subject, causing you to have to re-shoot. Switching to manual focus and focusing on the main subject can prevent this from happening. Remember to refocus manually for each new take. As a side note, camcorders will drain the battery faster with auto focus on. There are, of course, times when

manual focus may not work, for instance, when capturing a person moving toward the camera

Auto Exposure

Consumer grade camcorders use an averaging process to select the best exposure. This works well if the brightness values vary smoothly across the viewable area but often fails when the levels of brightness differ greatly. There are a number of common circumstances that can result in bad exposure.

Beware the backlight. For example, you may find yourself capturing a speaker standing in front of a bright light or notice an overhead fluorescent light in the field of view. Correct the problem by moving the subject or changing the camera to subject angle.

Auto exposure may also fail if your subject is wearing dark or light color clothes when you zoom in close. Recommend your talent wear neutral, yet bright, clothing. **This is extremely important: Do not allow your talent to wear either black or white clothing as this will cause problems in your overall exposure.**

If your subject is standing in front of a classroom white board or white cinderblock walls, the result will often be an underexposed face. This is why we recommend having a background to your set, be it a mural or banner or other backdrop. Remember your camcorder is averaging all the pixels viewed to determine exposure. If there is a large area in view that is significantly different in brightness than your subject, it may spell trouble.

If it is not possible to correct for these problems, check to see if the camcorder has a back light mode or variable exposure control. Check for the result in the viewfinder, not the LCD. Don't forget to change the settings back to normal after the shot.

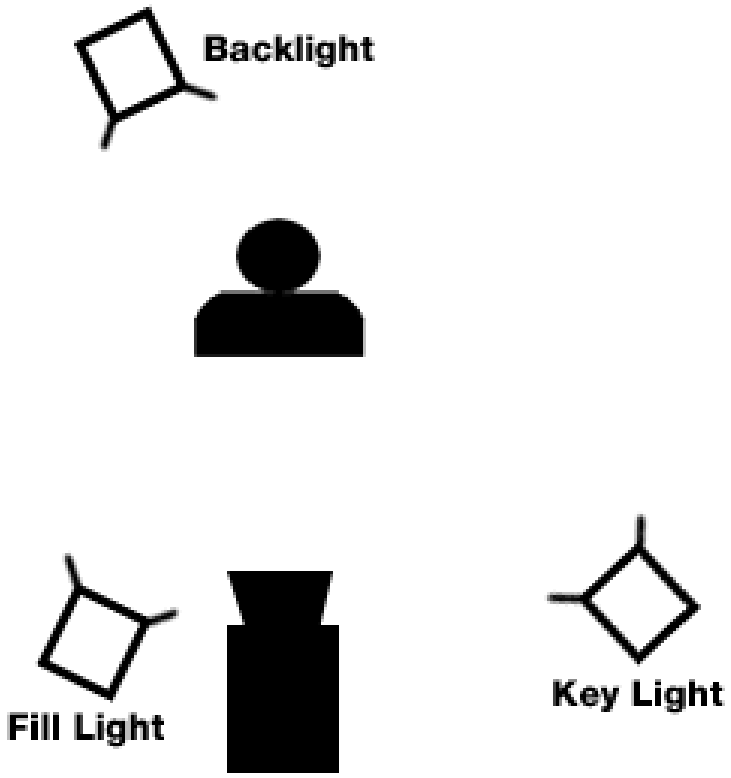
Lighting

The Cannon GL2 camcorders are very effective at using the overhead lights in a room to get a good picture. This does well in a morning show

situation or another situation where there are more people and shots than our studios have available lighting for. However, most studios come with additional light kits and setting up the lights may be important in many other productions, or to fill in lighting gaps for the morning show itself depending on your needs. Why is lighting important?

Poor lighting will result in the loss of detail and, in extreme cases, causes graininess of the finished video. Most viewers will focus on the lighting of your subject's face(s) in a given shot. If you make sure your key subjects faces are lighted well, then you will succeed. Make sure the lighting is not all coming from the same direction or the subject may appear to be flat, without depth. This is especially not flattering for the "face."

3 point lighting is the ideal way to light someone when not relying on the overhead lights. Here is an example of that kind of lighting:



The image above illustrates the benefit of 3-point lighting using the following 3 sources of light:

The key light. The key light is the primary source of illumination in a scene. It may be the sun, light from a window, or a spot light. The key light in a studio is often located at a 45 degree angle from the camera/subject horizontal line and also at a 45 degree angle vertically above the same line. The key light is usually the brightest of the light sources. It may have a translucent cover to soften the light.
The fill light. The fill light is selected to fill in the shadows caused by the key light The goal is to reduce the contrast ratio. The fill light is usually 90 degrees to the side of a line between the key light and subject.
The backlight. The backlight comes from behind the subject. It helps separate the subject from the background. The back light may be on the wall or often illuminates the back of a person's head. If you plan to do a great deal of video projects that involve interviews or close ups of speakers facing the camera, you may want to establish a simple studio with 3 point lighting.

Pay attention to the overall differences in lighting in the view finder. Remember your auto exposure, for most cameras, looks at the average brightness of the whole field of view to determine how much light it captures. If there are lots of white or bright lights, then your subject's face may be under exposed. A DV camcorder can capture contrast ratios of only about 4 to 1. This means that that bright spot on your subject's forehead might translate to pure white in the video or that dark grey objects will appear totally black. Either by adjusting lighting or re-positioning your subjects and/or camera, insures that the lighting does not show extremes of light or dark.

Some basic Audio:

Always try to use external audio. While camcorders come with a built-in microphone, it is not a good idea to use this microphone for your video projects. The built-in microphone, because of its distance to the subject and the camera's automatic gain features, will usually pick up too much room noise and even the motor noise from the camcorder.

Most studios have come with two types of microphones – two handheld mics, and one (or two) wireless lapel (lavaliere) microphone.

For the morning show, it is easiest to use the handheld mics on a base placed on the anchors' table or strategically placed to be aiming towards the talent that is speaking. The placement of the microphones, of course depend on the set up of your set. If you are outside of the studio with one of your cameras recording directly to tape you will want to use a wireless microphone, whose receiver plugs directly into the camera if you are filming one source, and in a rare instance of filming an entire class you may have to use the camera's on-board microphone.

Filming

So now you've got your camera set up…your audio and lighting are just fine. What now? Well next comes the actual shooting of the video. These hold true if your video is live or taped and edited.

Camera Shots -There are three basic camera shots

- **Wide shot** (also known as Establishing Shot or Long Shot) This shows the whole scene. Frequently you'll see video pieces begin with a wide shot. It's helpful because it sets the stage - the viewer knows where s/he is. These shots are also good if there's a lot of movement. This might show a person from head to toe.
- **Medium Shot** This shot shows less of a scene that the wide shot. The camera seems closer to the subject (although it may not be if you use your zoom lens). For example, if you were interviewing someone, this shot would show them from about the waist up in a medium shot. Use this when you want a closer look at your subject, or when you need to transition between wide shots and close up shots (it is difficult for the viewer to follow what you are doing if you go straight from a wide shot to a close up shot).
- **Close Up Shot** This shot shows an even smaller part of the subject or scene. Great for showing detail, like a person's emotional face or individual leaves on a tree. If you were interviewing someone,

this shot would show the person from the top of the chest or shoulders up. An **Extreme Close Up Shot** is even closer than a Close Up. For example, it is just of the person's eyes, or of a bug gnawing on a leaf.

Other concepts for gathering video

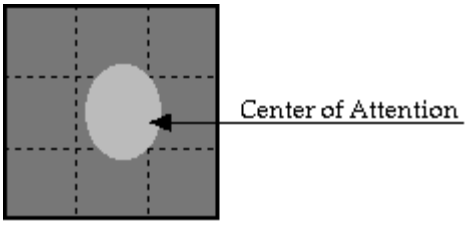
- **Two Shot/Three Shot** - a two shot has two people in the frame. A three shot has three people in the frame. Because you have to be some distance from the people to get them all in the frame, this is usually a medium or wide shot. – This is the shot that will be used in most of your morning shows.
- **Over the Shoulder or Cutaway Shot.** A Cutaway is usually a shot of the interviewer, who can be listening, nodding, or responding to the guest. This is used a lot in interviews to show the person who's asking the questions. It's called "over the shoulder" because the photographer is literally shooting video of the interviewer over the shoulder of the person being interviewed. (An over the shoulder shot is a type of cutaway). These are very useful when editing because it gives you an easy way to transition.
- **Sequence** - a term used in gathering video and editing. It refers to a series of related shots. For example, a sequence could be a wide shot of the Bay, followed by a medium shot of a few wind surfers, followed by a single wind surfer zipping through the water.
- **Length of shot -** How long you show each shot depends on what's going on in the shot, and what you're trying to accomplish. If there's a lot of action or movement in a shot, you may use 20 seconds of it or more. If nothing is happening in the shot and you're showing a still scene, you may only use three seconds. When deciding how long to make a shot, keep in mind that your goal is to gain and hold the audience's attention and understanding.

Composition/Framing Your Shots

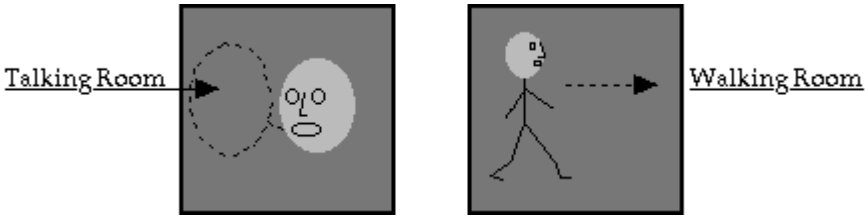
- **Composition -** There are many ways to compose a shot, depending on your goals. You want to be aware of what is in the shot and

what isn't. Can you clearly see what you intend for the viewer to see?

- **Rule of Thirds** - this classic rule suggests that the center of the camera's attention is one-third of the way down from the top of the shot.



- **Headroom** - A term used with shots of people. This refers to the space above the subject's head. You'll see different amounts of headroom, depending on the intent of the creator of the video. In general, if you're standing right in front of someone, you'll see that they have space all around them - they aren't cut off by a frame. By leaving headroom, or space beside them, you are imitating what you see in real life.
- **Talking/Walking Room** - If you are interviewing someone or have video of someone talking, you generally do not want them looking directly at the camera (again, it depends on your goals - certain situations may call for that). Generally you want the person to be looking off to the left or right of the camera a bit. When you do this, frame your shot so that there is some talking room. That is, you want to leave some extra space in front of their face as if you were going to draw a dialogue box in for them. This space is "talking room." If the person is talking to another person, this shows space between them. Walking room, if the person in motion, gives them space to walk to. Talking/Walking Room leaves space in the shot for the action, whether it be words or movement.



Shot Angles
Your shot angle is the level from which you look at your subject.

- **Eye-level angle** - One of the most commonly used shots is the eye-level shot. Why? Because it's the perspective most familiar to us - we usually see things from our own eye-level. This angle also causes the least discomfort because we're used to it. If you're shooting a person, make sure you shoot at their eye-level, not yours.
- **Low Angle** - In this shot the camera looks up at the subject, making it seem important, powerful, or perhaps larger than it is to the viewer. For example, you might be sitting on the ground looking up at someone who is standing. Click here for an example.
- **High Angle** - In this shot the camera looks down on the subject, decreasing its importance. The subject looks smaller. It often gives the audience a sense of power, or the subject a sense of helplessness. In this case, you'd be higher than the other person (maybe they're sitting, or maybe you're standing on a desk) looking down on that person.

Shot Movement

- **Pan** - A shot taken moving on a horizontal plane (from left to right, right to left). If you want to show a frisbee flying across a field, you might use this shot to follow the frisbee from one person to another.
- **Tilt** - Camera movement in a vertical plane. (up or down) If you want to show a tall building but you can't get it all in your shot, you might start at the bottom of the building and go up to the top.
- **Zoom** - This shot brings you closer to the subject. For example, from a Wide Shot to a Medium Shot or Close Shot. If you are looking at the Golden Gate Bridge, and you want to see individual people walking across it, you might zoom in.
- **Reverse Zoom** - This shot moves you farther away from the subject. For example, from a Close Shot to Medium Shot or a Wide Shot. If you have a Close Up shot of a flower, and want to see the entire field that the flower is in, you can reverse zoom.

In general, use shot movement(s) sparingly. Try to put a still shot (no pan, tilt, or zooming) in between two pans/tilts/zooms. This gives the viewer a moment to get their bearings.

What now?

Now you know the basics of your equipment and what it can do…you've learned a bit about audio and lighting and framing a scene. You may be asking yourself, "So what now? How do I put it all together to fit my school's needs?"

The first thing you will need to do is define your school's needs. Will your studio be used only for a live morning show? Will you be doing a video yearbook to sell at the end of the year? Will your principal be doing messages to the students through your studio? Will teachers tape lessons to broadcast, or to create an in-school lesson library? Will you be doing one of the above, some of the above, all of the above or some projects that are entirely different?

Once you know what projects you will be creating, next comes…

Planning:

Most likely, as the studio's instructor(s), you will initially be responsible for producing your shows. Simply put producing a show is planning and overseeing a show from inception to finished product. Planning is **the** most important aspect to video production and the most overlooked as well. Most video production fails in this stage. Proper planning done before the production of a show is crucial to a final project.

The production phase, itself, can be time consuming, so pre-production planning can help to insure you get the best quality content on the first try. Depending on your project, your planning may include the following:

- Defining the Project - In a sentence or two - What will our project be? Who is our audience? If this goes much more than a sentence or two the project can easily stray from its initial focus.

- Will the show be live or will it be taped and edited?
- What do you want the children to learn? What skills and lifeskills will they acquire?
- Production decisions – Live, taped, voiceover, music, graphics and other production elements that go into producing a great show.
- Pre-production Scouting – if not the morning show studio, where do you wish to film? What other aspects do I need to take into consideration for this new set(s)
- Planning Scenes and Shots – What order will we go? How do I frame the talent and background in a scene, etc.

The processes used for planning will vary based on the complexity of your project and the style of video you are producing. For short, morning shows (live or taped and edited) without much being added, a simple written description will suffice. For more complex projects such as a video yearbook, a pictorial storyboard may be more appropriate. In this instance you will write a short description for each scene as a caption to a picture drawn to represent that scene **(A sample storyboard is at the end of this handbook).**

Pre-production planning should include the logistics of the production as well as guidance to the camera crew. Even with a simple project, you will find a large number of variables that can positively or negatively impact the quality of your project. The combination of thorough planning and experience will help make the difference. Please note, for the morning show, you don't need a whole plan for every day, but going into the year with well a defined project will make things far easier to get the show off the ground – for both you and your students.

Initial planning documents can enhance the results of your project. In the document, the exhibit objective is defined, target audience identified, and each video element to be included in the exhibit has been defined along with a brief plan for the context that will accompany each video segment. The location for the video capture has been identified as well. This "upfront" planning will result in the purposeful capture of specific video segments that will contribute to the project in a meaningful way. This initial plan will impact later decisions such as the equipment required as well as scheduling. In essence, this is

nothing more than a general lesson plan for each type of studio use (a live morning show can be one type, taped and edit programs are other types), as this studio will help to teach children. This will also help you to always stay on task and help you to create….the treatment.

A brief narrative description of what the viewer will see and hear in your video is called the treatment. The process of writing a description of the video will help you think deliberately and creatively about what the finished video should look like to the viewer.

Treatments are also useful in communicating with others your plans for specific video segments. Getting others to evaluate the treatment can result in valuable feedback that will help you improve your plans. If your project includes several original video clips, a short treatment for each clip could be useful. **(A sample of a treatment is at the end of this handbook.)**

Now, I am the first to realize that at the beginning, most of you will not stray far from the live morning show and that is fine. I just want you all to be aware of the capability for instruction, development, and well polished finished products you have at your fingertips. Hopefully once you get the hang of the morning show you will be willing to dip your toes into the waters of in-school video production. Proper videography is not the easiest thing in the world, but with a little bit of practice, you and your students should be able to produce high-quality programming for the school, the parents and the community.

Additional resources:

Fair Use and Copyright information:

http://www.copyright.gov/fls/fl102.html

Video Production Tips:

http://www.bcps.org/offices/lis/models/tips/videotips.html

http://evpc.biz/video_production/tips

http://www.mvcc.net/index.php?option=com_content&task=view&id=32&Itemid=53

Product Manual Download Links:

Cannon GL2 Camera (Click on the gl2 pdf):
http://alpha03.c-wss.com/inc/ApplServlet?SV=WWUCA900

Mackie Audio Mixer
http://www.mackie.com/pdf/1202vlzpro_om.pdf

Panasonic Video Mixer:
http://service.us.panasonic.com/OPERMANPDF/WJMX20.PDF

Edirol Audio Mixer:
http://www.edirol.com/products/v1/rsrc/V-1_e3.pdf

Titlemaker 3000:
http://www.focusinfo.com/dynassets/documents/products/Titlemaker_3000_UserManual.pdf

Applied-Magic Screenplay/Sequel Manual:
http://www.applied-magic.com/pdf/manual.pdf

A sample Story Board Template

An Example Video Treatment
Methods in Multimedia
Academic Assignment Projects

Introductory video

The instructor (standing in front of the school) will face the camera directly and introduce himself, the name of the course, and school name and environment. As the instructor begins the school and environment description a cutaway to campus video will occur showing the building and students moving between classes. The video will then return to the instructor, now sitting at his classroom desk. The instructor will describe briefly the specific practice of giving students authentic tasks. During this narration, video clips of students at work in the lab will be presented. Finally the instructor (now standing in the lab) will describe what can be found in the online exhibit of practice and invite viewers to explore.