GUIDE TO FILMING LIVE THEATER

ARCHIVAL FILMING GUIDELINES AND LESSONS LEARNED FROM THE CTDA PROJECT

CUBAN THEATER DIGITAL ARCHIVE

GUIDE TO FILMING LIVE THEATER

ARCHIVAL FILMING GUIDELINES AND LESSONS LEARNED FROM THE CTDA PROJECT

VERSION 0.1 JANUARY 2012

WRITTEN BY:
NOELIS MÁRQUEZ
XAVIER MERCADO
LILLIAN MANZOR
MARK BUCHHOLZ
BRYANNA HERZOG

EDITED BY:
BRYANNA HERZOG

WWW.CUBANTHEATER.ORG

TABLE OF CONTENTS

INTRODUCTION

Live theater and performance are probably two of the most evanescent forms of cultural heritage. They are always provisional, ephemeral, and non-repeatable. As intangible cultural manifestations, they transmit an embodied memory that is extremely fragile and risks disappearing. This non-repeatability points to two salient characteristics of theater as live-art performance: 1) It is a transient and fleeting art form. The ontology of each performance is, of course, the present. It exists insofar as it is a representation without reproduction. 2) It is collaborative rather than individualistic in nature. Live-theater involves collaboration from a wide range of participants, which include, in addition to the theater artists and technicians, the participation of the film documentation team.

Filmed documentation of performances is an ongoing process. The advent of digital technology offers us the possibility to maintain older analog recordings before they deteriorate completely. It also allows us the possibility to record live performances as well as rehearsals and interviews with theater artists, thus creating sources of documentation useful for artists and scholars alike. In order to archive theater practices and movements, in other words, in order to "record" however partially the knowledge conveyed by these live, embodied performances, we need to create a visual documentation for them.

There is no one method to film live theater for documentation purposes.

There is no one method to film live theater for documentation purposes. One way to approach it is to consider the filmed record of the live performance as a "final" product, a document of that one, unrepeatable experience. Another way is to focus on theater as process and document the activities through which a group arrived at the product that is on stage. In either case, the filmed documentation process is also a collaborative enterprise between the videographers, the researchers and the theater director who may collaborate in the editing process. The researcher and director know the play on stage well and can assist in making appropriate filming and editing choices such as the scenes, gestures, and movements

that need to be captured. The videographers bring their knowledge of lighting, space, and sound and can bring to the fore visual and spatial elements that may escape the researchers due to the textual nature of their training. The videographers then edit the production with the researcher's or director's "direction." The resulting documentation is clearly not meant to supplant the live performance. Rather, it is a digital document that tries to capture the non-verbal cues of live-performance thus offering the traces or supplements of the performance itself.

EQUIPMENT LIST

When we go out to film a play, each videographer is in charge of a kit. We have four camera kits that are identical to each other. In addition to these kits, we have other equipment that can be used for various recording scenarios.

TYPICAL KIT:

VIDEO
- SONY NXCAM Camcorder
- TRIPOD

AUDIO
- RODE Shotgun Mic
- RODE Mic Shock Mount
- RODE Windscreen
- RODE Windshield
- EV Standard Handheld Mic
- SHURE Dynamic Handheld Mic
- SONY Headphones

WIRELESS AUDIO
- SENNHEISER Receiver
- SENNHEISER Transmitter
- SENNHEISER Plug-On Transmitter
- SENNHEISER Lavaliere Mic

BATTERIES
- SONY Large Lithium Batteries
- SONY Standard Lithium Batteries
- SONY Single Battery Charger
- Rechargeable AA Batteries

CABLES
- 15 ft. XLR
- 20 in. XLR
- 20 in. XLR – 3.5mm Jack
- 18 in. 3.5mm Jack
- USB Cables
- Component Out (RGB)
- Composite AV (Red, Yellow, White)

MEDIA STORAGE
- PELICAN SD Card Case
- 32 GB SDHC Cards
- SONY Flash Memory Drive 128 GB

ACCESSORIES
- Mini Flash Light
- Extra Hot Shoe
- Lens Wipe
- White Balance Card

OTHER ITEMS IN INVENTORY:

VIDEO
- IKAN LCD Monitor w/ Battery Mount
- Hot Shoe Monitor Mount
- Articulating Arm
- VARIZOOM Remote Focus/Zoom
- LITEPANELS Micro On-Camera LED Lamp*

AUDIO
- K-TECK Mic Handle
- ZOOM Digital Audio Recorder
- AUDIOTECNICA Boundary Mics
- TASCAM Field Mixer
- RODE Blimp Windscreen
- K-TEK Boom Poles

STANDS
- JAMSTANDS Mic Boom Stands
- JAMSTANDS Mini Mic Stands

CARRYING CASES
- Pelican Case
- Other Cases
- Backpacks

ACCESSORIES
- Gaffers Tape

FILMING GUIDELINES

There are many different ways to record a play and each will give a different outcome and effect. There is no one right way to film a play, but there are things you can do in order to maximize the quality of your recording.

Keep in mind that when filming a play, it is important to be as "invisible" as possible so as not to disturb the actors and the audience. The play was meant to be performed in front of a live audience before it was meant to be videotaped, so it is important to honor the live performance.

Make sure to arrive at the location at least 1 hour before the audience begins to take their seats; this means, you should arrive 1.5 hours before the play is set to begin. For example, if the play starts at 8:30pm, you should be at the location at 7:00pm. This will allow time for you to get a good parking spot, bring all of the equipment inside the location, talk to the director, figure out camera and audio equipment placement, run any cables needed for audio recording, put away all equipment not being used, and be ready before the audience comes in. If you decide to get to the location with even more time of anticipation, you need to make sure that there will be someone at the theater to let you inside and set up. You should have the contact information for the Assistant Director of the play and the Stage Manager of the space. If you are going to film without the project director, introduce yourself to both once you arrive to the theater.

A great way to make the recording of the play better when filmed before a live audience is to go to rehearsals. Take notes on the characters and the dialogue, emotional moments, important props, scene transitions, light changes, and any other details that will help you make decisions about when to zoom in and out of a scene. Discuss with the theater director and/or project director the details that will help you in filming. Talk with the other videographer(s) and make decisions on who will film what, who will zoom when, who will maintain the wide shot, etc.

> *A great way to make the recording of the play better when filmed before a live audience is to go to rehearsals.*

STAGE DESIGN

There are three types of stage design: proscenium, thrust, and small arena. In the proscenium stage, the actors perform for an audience seated on one side of the stage. In the thrust stage, the actors perform for an audience seated on three sides of the playing area. In the small arena, the audience surrounds the actors on all sides.

Proscenium Stage   Thrust Stage   Small Arena

Stage Design: Proscenium, Thrust, and Small Arena. Audience is denoted by orange; Stage is denoted by yellow.
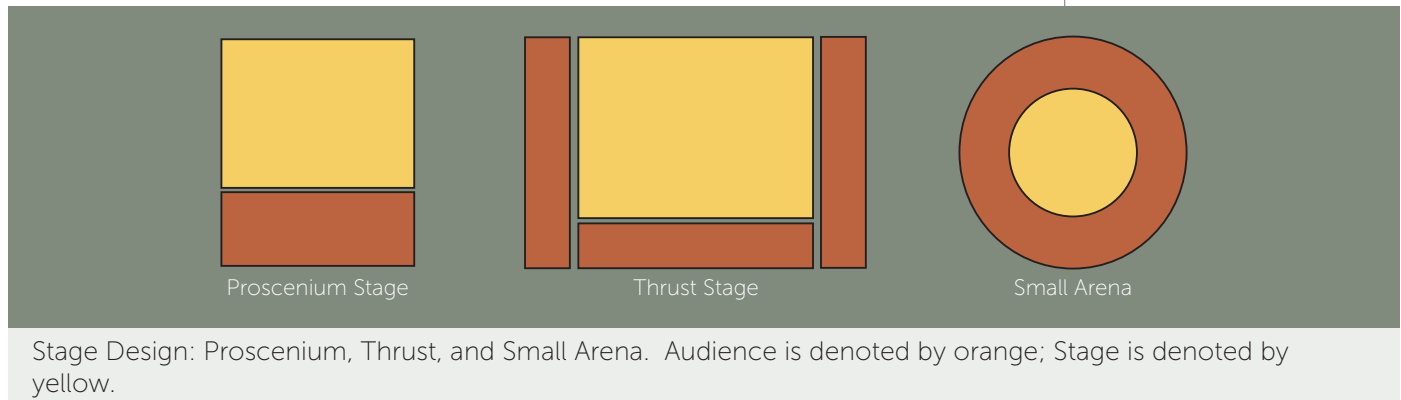
CAMERA PLACEMENT

Whether you are using one or more camera, each one should be placed facing the stage so that they can record the action as directly as possible. Finding the optimal place depends upon the stage design and takes into account the architecture of the building (in our experience, there have been poles behind the audience that we had to work around). The flexibility of recording changes when the number of cameras increases.

Filming With a Single Camera

If there is only one videographer available to film the play, it is the videographer's responsibility to make sure s/he captures all of the information that happens in the play. Before the beginning of the play, talk to the director and ask about important moments in the play, how many actors will share the stage, entrances or exits of actors that will happen off stage, and other details that will be crucial to your filming.

If you are unfamiliar with a play and are unable to go to a rehearsal to take notes on the action, we recommend maintaining a wide shot with enough space around the camera to pan left or right during sudden entrances of characters, abrupt movements, drastic light changes within the set, etc. When filming with a single camera, we recommend only zooming

in during scenes of dialog, while including as much detail as possible. Remember, more information is good (the wide shot), but quality and details can also be important. We want to get close enough to capture the details of the characters and the set, but we want to leave sufficient space to be able to follow the actor(s) and not film them out of frame if they move.

Proscenium Stage	Thrust Stage	Small Arena

N/A
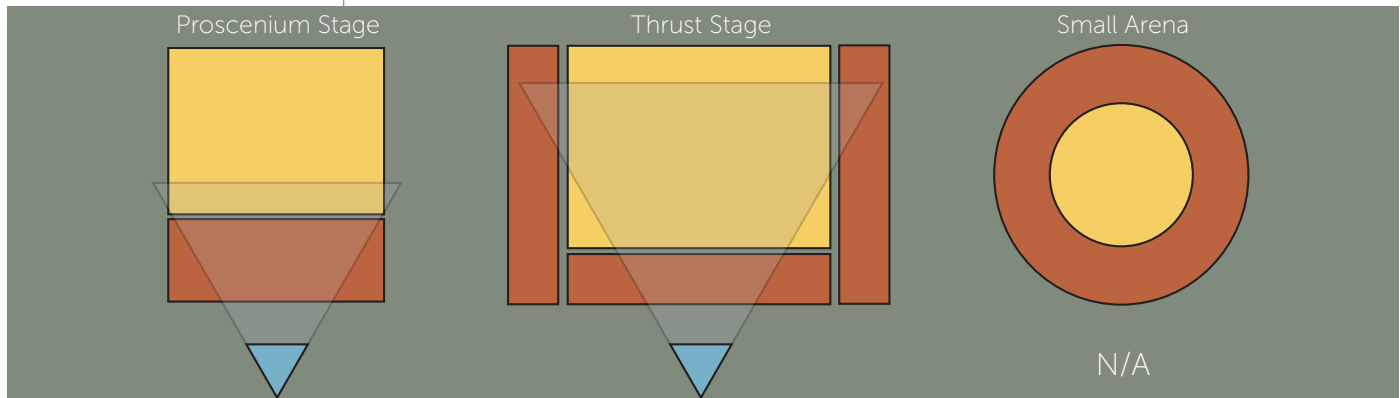
Camera Placement-Single Camera: Place the camera center stage, behind the audience. Be sure to have a clear view without getting the audience in the shot. We do NOT recommend filming with one camera in a Small Arena stage design.

Filming With Two Cameras

The optimal setup for filming with two cameras is to place one at the center of the stage and the other at either stage left or right and angled toward the center of the stage.

When filming with two cameras, it is very important that both videographers communicate with regards to what they are going to film and how they are going to film it so as to cover as much of what is going on in the play as possible. Before you begin to film, the videographers should make a decision on which one will film the wide shots and which will film the close up shots. Since our crew consisted of two people, one was responsible for handling the audio recording equipment as well.

The camera that is closer to the center of the stage should always record the wide shot, this is because center stage is usually the best angle to record a play. The second camera, which will be the close-up camera, should be placed at an angle that will allow for good recordings of all of the actors as they perform around the stage. It should be strategically placed so that the actors' faces and gestures will be seen as they perform and can be intercut with each other in post-production.

Proscenium Stage (A)

Proscenium Stage (B)

Thrust Stage (A)
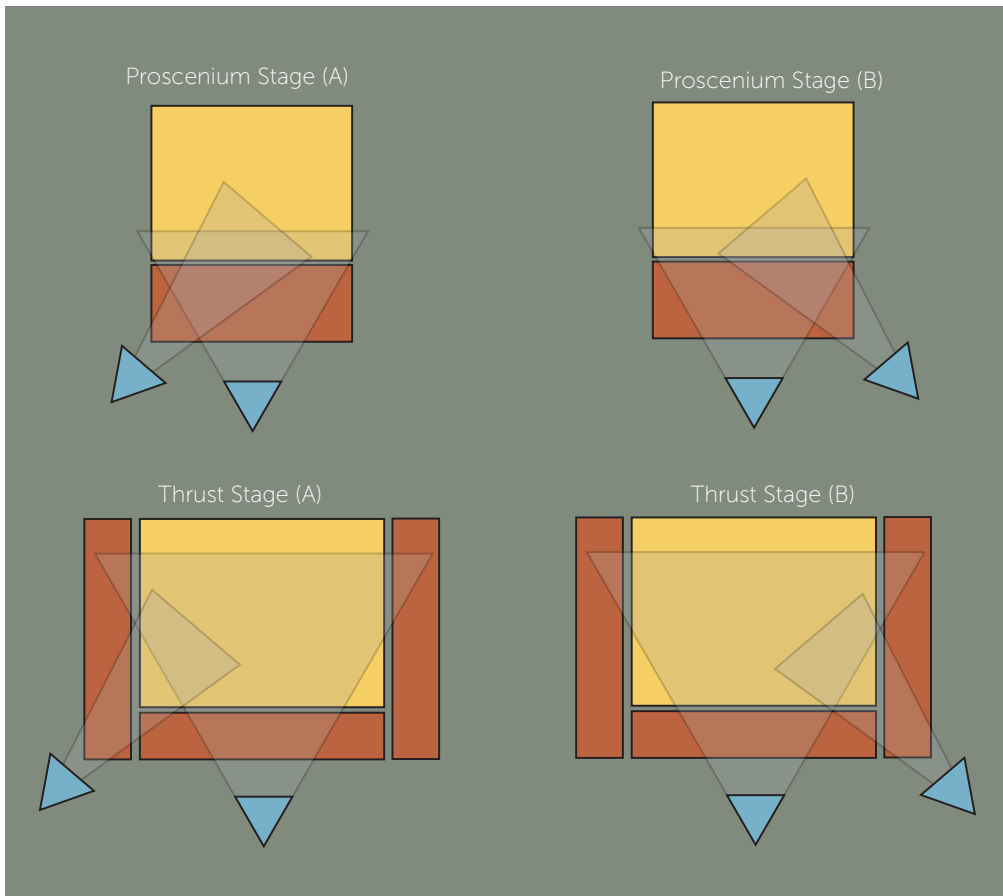
Thrust Stage (B)

Camera Placement-Two Cameras: In both the Prosceium Stage design and Thrust Stage design, one camera should be placed in the center of the stage. The second camera can be placed on either stage left or stage right and be used to capture close-up shots of the actors. Choosing left or right is arbitrary, unless the set design or play director determine a preference.
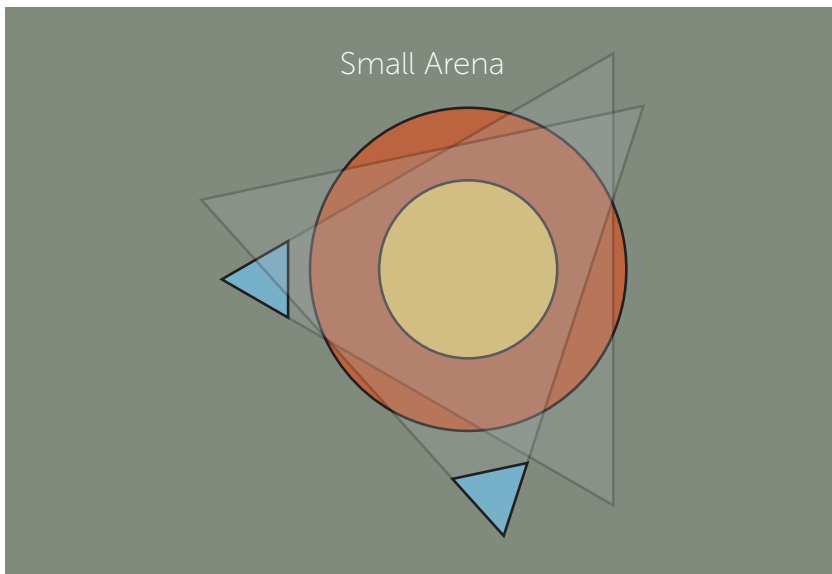
Small Arena

Camera Placement-Two Cameras: For the Small Arena stage design, the cameras can be setup at any point, dependent upon the placement of actors and the set design. However, you should do your best to NOT film the other videographers. Filming this type of stage is tricky and it is highly recommended that you attend rehearsals to work out the details of filming from the best angle to obtain the most of the play.

FILMING CONSIDERATIONS

The Cuban Theater Digital Archive project was designed with two principle objectives: (1) All work should be conducted with an archival preservation mindset; (2) We must preserve the experience of the live audience. Because of those objectives, there are a few things to think about before you hit the record button.

Leadroom and Headroom

When filming with a single camera, you should leave enough leadroom and headroom in your frame so that you capture any important information (set design, actors' movements around the stage, etc.) that happens at any given point during the performance. If filming with 2 or more cameras, the close-up camera should leave enough leadroom and headroom in your frame so that, if the actor suddenly moves, he/she will still be in the frame of what you are recording.

Avoiding the Audience

A play is meant to be presented for a live audience, not to be recorded on camera. That said, the audience is an active part of the entire presentation. For this reason, it is important to not only incorporate the audience's reactions through sound, but also not to completely avoid their presence. If the heads of the people in the first few rows interfere with your shot and there is no way to get around that, find a way to make it work. Remember, your camera ultimately is another audience member in the crowd, so you have to find a way to capture the best material without interfering or altering the other audience members' theatrical experience.

Additionally, for archival purposes it is always a good idea to record the audience a few minutes before the play begins and after the play ends when they start to exit. It is also a good idea to record the exterior and interior of the space before the play itself begins.

Light – Brightness Changes and Adjustments

The lighting design of a play is one of its most important components and how you setup your camera to capture exposure will highly affect the end result of your recording.

If possible, talk to the lighting designer and/or the director and ask them about important cues for changes of light exposure and placement, especially if these will take place while the actors are performing. You definitely want your recording to be faithful to what is being seen by the actual audience; however, you also want to capture as much detail as possible.

If the lighting design calls for many changes during the performance and you find yourself capturing underexposed or overexposed material, make sure that between these changes you can adjust the Iris of you camera to capture more or less light. If you do not adjust the exposure while you are filming, it will be more difficult to fix these issues in post-production. Please refer to the "Filming-Technical Guidelines" portion of this document for instructions on how to adjust the exposure setting on the camera.

BEHIND THE CAMERA

The use of different shots while filming a play depends on many factors, which include but are not limited to: Amount of actors on the stage at the same time, genre (Comedy, Drama, etc.), movement and use of the stage throughout the play, entrances and exits from actors, set design and use of props, and lighting design.

Videographer –vs– Director of Photography

Whether you decide to use a close-up, medium, or wide shot at particular points throughout filming is up to your discretion.

When do you use Close-ups, Mid Shots and/or Wide Angles?

Close-up shots are good to capture when an actor/actress is having a very intense, emotional moment in a particular scene. These shots are also important when there are details that would be hard to capture in a wide or even a medium shot, such as makeup, crying, particular facial expressions and gestures, small props used by the actors, etc.

Medium shots are important because these maintain a balance between the detail provided by a close-up shot and the amount of information in the frame provided by the wide shot. Medium shots can be used when an actor or actress uses drastic body movements, when 2 or more people are talking in a scene, and or when an actor/s moves around the space.

Wide shots are very important because they capture all of what is going on in the play. Wide shots are good "establishing shots", and always good to have when a play is starting so that the person watching the video knows the space and can relate to it as an edit may move to a close-up or a medium shot as it progresses.

Medium Shot: Captures the action where the dialogue is happening and captures detail that cannot be appreciate in a wide shot
Teatro de las Estaciones' *Por el monte Carulé*, by Norge Espinosa, Rubén Darío Salazar director. From left to right Rubén Darío Salazar and Iván García.

Medium Shot: Captures the action where the dialogue is happening
Maroma Players' *Si vas a comer espera por Virgilio*, by José Milián; Rolando Moreno director.
From left to right, Jorge Hernández and Ariel Texidó

Medium Shot: Keeps all of the action in the frame and captures more detail
Teatro de La Luna's *Delirio habanero* by Alberto Pedro Torriente. Raúl Martín director.
From left to right Mario Guerra, Amarilis Nuñez, Laura de la Uz.

Wide: Captures all of the action of the scene in the frame
La retirada de Moscú, director Rolando Moreno.
From left to right, Teresa María Rojas, Javier Siut, Jorge Hernández

Wide Shot: Captures all of the action in the frame
Teatro de las Estaciones' *Por el monte Carulé,* by Norge Espinosa, Rubén Darío Salazar director.
From left to right and Iván García and Rubén Darío Salazar.

Wide Shot: Captures all of the action in the frame
Maroma Players' *Si vas a comer espera por Virgilio*, by José Milián; Rolando Moreno director.
From left to right, Gerardo Riverón, Jorge Hernández, Ariel Texidó

Wide Shot: Captures the action where the dialogue is happening
Teatro de La Luna's *Delirio habanero* by Alberto Pedro Torriente. Raúl Martín director.
From left to right Laura de la Uz and Amarilis Nuñez.

Extreme Wide Shot: Capture all of the action related to the scene in the frame (On stage and Off Stage)
Obba by Excilia Saldaña. Eddy Díaz-Souza director.
Oneysis Valido

Extreme Wide Shot: Maintains all of the action happening within the frame
Teatro de La Luna's *Delirio habanero* by Alberto Pedro Torriente. Raúl Martín director.
From left to right Mario Guerra, Amarilis Nuñez, Laura de la Uz.

When do you use zooms?

Zooming in and out during a play is very much up to the videographer's discretion on when it is necessary to do so. If you are filming with a single camera, the zoom should be used subtlety and slowly. If there are 2 cameras recording, the zoom can be used more creatively and faster because this can be covered by the other camera and edited together in post-production. However, you should always do so cautiously and only when you think it is necessary. We recommend zooming in if there is dialog heavy scene with important content that is crucial to the story, especially during emotional moments. Zooming out is important to capture any body movements that the actors perform or adding in the frame any other elements with which the actor interacts with at that particular moment. Remember, even though you are filming and hence looking at the play through what is captured through the viewfinder, you should always be aware of what is actually happening on stage so that you can make better recording decisions through the filming process.

...you should always be aware of what is actually happening on stage so that you can make better recording decisions through the filming process.

Showcasing production and costume design

Showcasing the production design in a play is usually done through the camera that captures the wide shot. It is important to make sure to capture the stage and the set in its entirety so that the final video contains all of the information possible pertaining to that play. On the other hand, showcasing the costume design in a play can be done with both cameras; the wide shot would capture the entire set and costumes being used by the actors, while the close-up captures individual details that would otherwise be missed by the wide shot.

How do you start and end the show?

Before the play begins, record several minutes while the audience is getting ready and as the lights fade out. You should also leave the camera filming for several minutes after the play ends to capture as the audience begins to leave and allow for a better ending transition in post-production.

When do you stop recording?

As mentioned above, you should leave the camera filming for several minutes after the play ends to capture as the audience begins to leave and allow for a better ending transition in postproduction. Before you stop filming, make sure that what is happening on stage is definitely over; for example, the director may want to say a few words afterwards, there may be a Question & Answer session following the play, etc.

What do you do during Intermissions?

During intermission, make sure to record several minutes after the intermission has been announced and several minutes before the second act begins.

AUDIO GUIDELINES

Audio is a very important part of filming a play and it should carry the same importance as video recording. We have a variety of audio equipment that have allowed us to capture high quality audio, but the way we utilize the equipment plays a crucial role when filming theater.

As with video recording, it is important that you talk to the director to make sure he/she approves where you plan to place the microphones on the stage; this is especially important if you use boundary microphones like the Audio-Technica in our equipment list. If the director lets you place the microphones on the stage, make sure you do so strategically; place the microphones close to the space where the actors will be performing the most, especially for dialog-heavy scenes. Ideally, this discussion should take place before the day of the filming. NEVER put or touch anything onstage without the director's permission.

Also, make sure that you always set-up to capture audio from the 2 inputs in your camera. Capturing audio from the camera itself is very important for several reasons:

1. Provides ambient noise

2. Records audience reactions, etc.

3. Provides audio recording in case the separate audio recording fails

While filming, make sure you pay attention to the audio levels, especially when music is incorporated into the play. It is important to avoid over-modulation because –even though it can be fixed in postproduction it takes time and will not provide an end result with the same quality of a well-recorded play.

EDITING GUIDELINES

...filming and editing ... should take on an archival style, in which the entire play, in all its visual essence, rhythm, and performance, is preserved

At the commencement of the CTDA project, motion pictures graduate students were hired to film local Cuban plays for the archive. Consequently, the coverage of the first performances included many close-up shots, stylistic zooms, and artistic follows of movements of the actors. As beautiful as the footage looked, it was apparent that the plays were being shot and edited in more of a cinematic style, in which the most interesting parts of the plays were focused on or edited for (i.e. emphasis on the better actor, close-ups on only the feet of a dancer, etc.). After various discussions, we concluded that filming and editing by the CTDA should take on an archival style, in which the entire play, in all its visual essence, rhythm, and performance, is preserved.

JUSTIFYING THE CUT

There are many reasons to cut a clip. However, at the moment of a cut, the editor alters the experience of viewing the play in one form or another. The editor's objective is to edit together two or more angles of coverage in such a way that the viewer experiences as close to a performance as the live presentation, while building an archival piece of Cuban theater.

An editor should use the cut...

1. When the emotion of the scene is better read from a different angle.

2. When the story or blocking is better seen from a wider shot or a different angle.

3. Or cuts, to emphasize the rhythm of the scene.

4. To divide a series of actions (when it seems beneficial to the experience).

5. To help distinguish a character's multiple personalities.

6. To emphasize an act or scene change.

7. To conceal an error in filming.

8. Editing pre-performance, intermission, and post-performance

Catch the Emotion

If an actor begins to cry in a scene, for example, but his back is to the camera, the emotion may be better appreciated from another angle where his face is shown. Capturing emotion, however, often requires a combination of the reactions from different actors. Note: This is not a judgment call on level of performance. Whether the acting is poor or exceptional, the capturing of emotion in the scene takes utmost importance in editing.

Best Angle for the Action

Most of the plays we have filmed consist of four actors or less. Though this is a relatively small cast, directors do not design blocking for a of couple cameras but for an audience of many. Thus, unlike an audience member in a limited seating position, the editor should edit with the goal that the viewer always has the best seat in the house. As actors move in the space, the editor should continuously cut in favor of displaying the angles that deliver the most descriptive actions of the actors. For instance, if two actors stand face to face in the center of the stage, their profile toward the audience, and suddenly one actor gives his back to the other actor, where should one cut? A good cut would be to the angle in which both actors' faces are seen.

On the same note, actors' actions do not always take place in close proximity to each other and display of the set design is limited in the close-up shot. The wide shot is essential for the archive. It is the shot that does not lose any part of the story. As seen below, it should be the most frequently used shot by the editor.
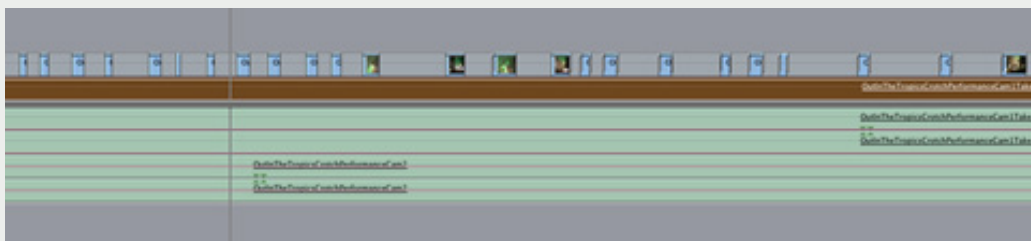

Final Cut Pro timeline of an edited video. The brown line is the wide shot of the play. The blue squares above it are close-up shots of the play. The most frequently used shot by the editor is the wide shot.

Emphasizing Rhythm

An editor is not only responsible for preserving the actors' movements, set and light design and the dialog but also the rhythm of scenes in particular and of the play as a whole. When an editor makes a cut, he or she either contributes to or inhibits the rhythm of the scene. One can feel a back-and-forth rhythm in the dialog between actors. Tension rises and falls. An increase in cuts often times speeds up the pace of the performance and requires the actors to have a faster rhythm. If the rhythm of the scene seems like it is lagging behind the pace of the cuts, use fewer cuts between angles. Fewer cuts allow for tension to simmer between actors. Often times, a cut that is perfect for rhythm can lose its perfection by a matter of frames. Cut and play back often to ensure the play's rhythm is coming across.

During scenes with music, the cut has the power to accelerate the rhythm of the performance or act as a speed bump. Use the beat of the music to drive the edits.

Cross dissolve from close-up to wide shot. *Obba*.
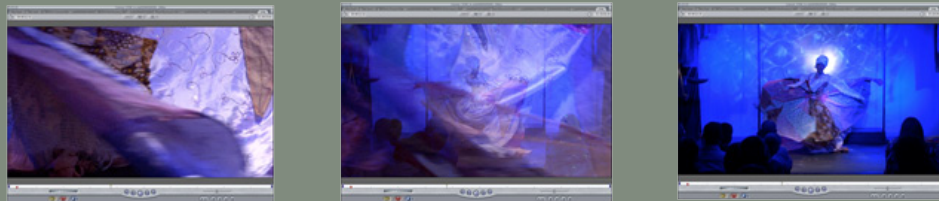
Consider cross dissolves with these segments, as this transition blends clips well with music. Coverage should flow seamlessly if edited according to rhythm.

Dividing a Series of Actions

A cut has the power to enhance the choreography of an actor. In the 2011 recording of *Obba*, there was a scene in which an actress was seated on the stage floor performing a variety of slow movements with props, all in specific choreography. The editor emphasized the choreography by cutting to different angles (that served the action) upon her transitions to the movements. The result seemed like a seamless collage of choreography strung together in a way that the viewer can appreciate. Note: You should try to avoid cutting in between a gesture, movement or verbal sequence.

In the above example, you can see that the editor cut a gesture sequence into separate units of intention. Editor should never break unit of intention because it can cause a jarring effect that was not necessarily experienced by the audience.

Covering Personalities

Often we will film a one-actor performance of a play that involves multiple personalities. In these cases, editing is essential to the reception of the story. As these actors jump from one character to the next, it is important for the editor to add cuts dividing the personalities into separate camera angles. A good example of this is the edit for the 2011 recording of Galeano 108's *Elektra*.

Scene Changes

An element of theater that often requires cuts is the transition between scenes. These scene changes are commonly accompanied with light cues. The cross dissolve is the best tool to use for these transitions when they connote a passage of time. However, scene changes vary in speed and do not always use light. In these cases, a straight cut to the actors of the new scene, if they are different, may suit the transition best.

Concealing Errors

Sometimes a camera operator will make an error that draws too much attention to itself and distracts from the viewing of the play, such as an abrupt pan, tilt, or zoom. In the event that one must cover a mistake, do not assume that at the start of the mistake is by default where one should insert another camera angle. The editor should choose a point before the mistake where a cut can be justified, such as a cut that emphasizes rhythm or divides an action.

Editing pre-performance, intermission, and post-performance

The editor is only allowed to cut out clips with the approval of the supervisor.

THE DISSOLVE TRANSITION

The cross dissolve video transition innately carries meaning. It often implies a passage of time, but it can also saturate the emotion of a scene. It is best used in slow, emotion-driven scenes, musical segments, and scene changes.

The length of the cross dissolve can give different meaning to the transition, and in turn, the scene. Similar to the cut, a fast dissolve will expect an accelerated performance from the actors, and vice versa. Beware of the temptation to place dissolves over several cuts. Though, visually, the transition blends clips safely, dissolves can jeopardize the rhythm of a scene. If used incorrectly, a cross dissolve can alter the director's intention for the scene.

Things NOT TO DO

1. DO NOT use a cross dissolve transition for every cut. As explained above, dissolves imply a passage of time, which only occasionally happens in a play. Moreover, dissolves slow down the rhythm of the play. It should not be the default solution for a questionable cut.

2. DO NOT cut out clips from a recording. Regardless if there is dead space, a mistake in the production, or a questionable performance, as archivists, we are to preserve not only the visual essence of the play but its duration and integrity as well.

COLOR CORRECTION

Color correction should not have to be done unless something went wrong with the setup of the camera(s). However, if it must be done, be sure to take into consideration the original lighting of the play. Drastic changes should not be made. If filmed with two cameras, with one being correctly calibrated, you can make the changes the color based on the correct camera recording.

AUDIO EDITING

Editing audio levels can vary in difficulty, depending on the quality of sound recorded at the production. Our production team records audio on various microphones, but the primary devices are the three Audio-Technica boundary microphones. These microphones are placed at stage right, left and center along the apron (edge of stage). They are the closest microphones to the actors and are designed for such performances. One major difference with the boundary microphones is that, whereas the other microphones are recorded directly to the camera and attached to the video (called the Scratch track), the boundary microphones are recorded separately into our Tascam field mixer. This means they will need to be synchronized before editing. See Appendix B: Boundary Microphones for more information.

LESSONS LEARNED IN THE EDITING ROOM

On one of our first local recordings, we attempted to film a play with a three-camera setup...with only two cameras. How? Since the show was running all weekend, the idea was that we would record the medium shots from the sides on the first night, and then just record a central wide shot with one camera on the second night. Well, all the recordings were well executed, but there was one problem – actors are not robots! In the editing room, we realized blocking, the choreographed movement of the actors across the space, was not the same on every line, the jokes were not received the same by the audience, and dialogue was changed occasionally. This made it a nightmare to edit, but it taught us three great lessons:

1. There are no "do-overs" in filming theater; you have one shot to record the show well.

2. Whenever possible, avoid recording two or more performances of a play with the intention of editing them all into one piece.

3. A third camera may enhance the quality of the recording and ease of editing out mistakes.

APPENDIX A: SONY NXCAM SETTINGS

RECORDING SETTINGS

1. Go to the MENU button at the top of the camera.

2. Go to the REC/OUT SETTINGS and click on REC SET (Recording settings).

3. Go to REC FORMAT and set it to HD 1080/60i FX. Make sure both the cards and the external hard drive are all set equally.

   a. The icon for the SD Cards looks like this:

   b. The icons for SD Cards A and B look like this, respectively:

   c. The icon for the External Drive looks like this:

   d. Click the image   and make sure you see the following image selected: and underneath you see 1080/60i FX, 480/60i HQ. If that is not the case, simply go to   and select .

   e. By selecting the above settings, you will be recording in HD quality in both the SD cards and the External hard drive.

4. Since you are recording at 60 fps, your shutter speed should be set to 60. (Camera Manual p. 30) To set the shutter speed, follow these steps:

   a. Press the SHUTTER SPEED button on the left side of the camera.

   b. Keep the SHUTTER SPEED button pressed and you will see on the display a gray rectangle with a white number on it. The white number is the shutter speed. To change that number, simply press the Up or Down arrows that are at the top of the camera, next to the video display OR use the wheel at the bottom of the camera (underneath the Audio Levels).

WHITE BALANCE SETTINGS

White balance should be set according to where you will be filming. There are some presets that you can use, and those are useful especially when you know you will be filming in only one location with a consistent source of light.

For example, if filming in an indoor Theater where the light source is Tungsten (is it is most of the time in Theaters) you can use the White Balance Indoor Preset. If you know you will be filming outdoors during the day, you can use the White Balance Daylight Preset.

> *If filming with 2 cameras, make sure that both cameras have the same recording and white balance settings.*

To select a White Balance Preset, follow these steps:

1. Go to the MENU button at the top of the camera.

2. Go to the CAMERA SETTINGS and click on WB PRESET.

3. Select the desired preset (Outdoor – Daylight, Indoor-Tungsten, or MANU WB TEMP-Manual White Balance Temperature).

When to Use the MANU WB TEMP PRESET
(Manual White Balance Temperature)

The Manual White Balance Temperature will adjust the White Balance according to the light source/s in the space you are recording. This preset is useful if you are recording in a place with a combination of light sources. In order to adjust the White Balance manually, follow these steps:

1. Make sure your White Balance is set to Manual.

2. Place a White card or sheet of paper in front of the camera and make sure it fills the entire frame.

3. Press the button underneath the Custom White Balance icon ( ) that is on the left side of the camera and keep it pressed until you see the color of the image change on the display. NOTE: You will know the image is White Balanced once you see that the white card is indeed white and does not have any other color tint.

It is important to revise these settings before filming so that (1) the colors all appear correctly and consistently throughout the recording, (2) the amount of time spent in color correction during post production is kept to a minimum, (3) the quality of the material that is recorded is enhanced and done as best as possible.

ADJUSTING THE GAIN SETTINGS

"One of the features you might find on your camcorder is called gain. Or gain up may be called gain down. What gain does is amplify the signal off of that image sensor, whether it's a CMOS or a CCD type of image sensor. It turns the brightness level up or down. It allows you to get a brighter image, but not having to deal with an f-stop or a shutter speed to do it. It allows you to brighten up that image, but there's a bit of a compromise to gain. The more you increase the gain, the noisier the image gets, or the film, or the grainier it gets. It's just amplifying the image off the signal... the signal off of the chip itself. So it works, but you have to use it cautiously. Too much

> *It is important to revise these settings before filming.*

gain, you can make a very noisy image. You can get a very grainy image. Too little gain, you get good dark blacks, but maybe your color saturation can fluctuate a little bit. So use gain, but remember it's affecting your image, it's affecting your brightness, without affecting a change in f-stop or shutter speed."

Definition of GAIN by Tim Smith - Camcorder Training Specialist; http://www.videojug.com/expertanswer/controlling-the-camcorder-picture/what-is-video-gain-and-what-does-it-do-on-my-camcorder

GAIN should be adjusted after the desired Iris and Shutter Speed settings are in place. We have to remember to press the GAIN button on the side of the camera until it sets on Manual GAIN. The GAIN setting is displayed in the bottom center-left of the LCD viewfinder where units read in "dBs". These GAIN units can range from 0dB to 21dB, darker to brighter.

Procedure for Operation of Gain

1. Press GAIN button on the side of the camera until the "A" next to the dB unit on the LCD Viewfinder disappears.

   a. This changes the GAIN setting from "Automatic" to "Manual", and activates the Preset switches below the GAIN button labeled L, M, and H, symbolizing "Low", "Medium", and "High".

   b. Factory settings have L on 0dB, M on 9dB, and H on 18dB. To customize, refer to the next set of procedures below.

2. After placing the Iris and Shutter Speed to the desired settings, switch the GAIN to L, M, or H, for the desired brightness level.

Procedure for Changing Gain Preset Switch Settings

1. Press the Menu button at the top of the camera.

2. Navigate to GAIN SET and press Enter.

3. Adjust H, M, and L settings to the desired units (ex. H - 9, M - 6, L - 3).

4. Press the Menu button again to save and exit the window.

FORMATTING THE STORAGE MEDIA (SD CARDS AND HARD DRIVE)

It is important to make sure that all cards and hard drives are formatted before filming. Formatting the cards/hard drive will erase all of the material that is inside it, so make sure that the material has already been logged and transferred before formatting.

1. To format the cards, go to the MODE button at the top of the camera. You will see 5 different options on the display.

2. Navigate until you reach MANAGE MEDIA and select it. Now you should see 3 options on the display

3. Select MEDIA FORMAT.

4. Once you select MEDIA FORMAT, you will see 3 options on the display, each represent the storage media that is in the camera (SD Cards and/or Hard Drive). Select the one you would like to format and click YES. The display will ask you "Are you sure?" (Assuming you have transferred all of the material in the cards, you are sure you want to empty the card in order to start a new recording), click YES again.

5. Once the media is formatted, click OK and you will see the live image on the display.

AUDIO SETTINGS

Audio can be recorded in a variety of ways, but your choice of recording method depends on what it is you will be filming, the size of the production, and your ability to place different audio inputs in different places.

Each camera has 2 Channel Inputs and 1 Internal Microphone from which to receive audio. Even though there are 3 possible inputs, each camera can only receive audio from 2 inputs at a time.

Also, audio signals can be monitored either separately or as a unit by plugging in the headphones and selecting the monitoring settings. The headphone jack is located right underneath the viewfinder on the left side. The headphone monitor is adjacent to it.

In order to receive a signal, each channel needs to be set correctly in 2 different areas of the camera:

1. Input Line-In selection (located right next to the XLR cable connections on the right side of the camera).

2. Audio Levels Line-Out Settings (located on the left side of the camera).

Each camera can only receive audio from 2 inputs at a time.

Audio Input Settings

Make sure your audio inputs are set to same channel in each of these areas. For example, if you are recording with a Boom Microphone and with the Internal Microphone and you plugged in your Boom Microphone to Input 1, make sure that your settings are as follows:

1. Input 1 Line-In selection (located right next to the XLR cable connections on the right side of the camera) is set to MIC +48V

2. The top Audio Levels Line-Out Settings is set to INPUT 1

3. Input 2 Line-In selection (located right next to the XLR cable connections on the right side of the camera) is set to MIC

4. The bottom Audio Levels Line-Out Settings is set to INT MIC

Plug in your headphones and make sure you are receiving a signal from both audio inputs before you begin recording.

Another important detail about recording audio: Never, ever leave your Audio Levels set to Auto. Make sure you have your Audio Levels set to MANUAL. When recording audio manually, you have control of when the levels should rise or go down thus reducing the amount of noise that is recorded, etc.

Make sure you have your Audio Levels set to MANUAL.

APPENDIX B: BOUNDARY MICROPHONES

The CTDA is equipped with Audio-Technica Boundary Microphones that are designed specifically for theatrical performances like operas, plays, and concertos. They are small, black, stingray-shaped devices that sit on the floor and pick up sound at a 60-degree angle from the floor up.

EQUIPMENT

1. TASCAM Field Mixer
2. 8 - Rechargeable AA Batteries
3. SDHC Cards
4. Audio-Technica Boundary Microphones
5. Long 3-pin XLR Cables
6. SONY Headphones with Mini-plug-to-Quarter-Inch Adaptor
7. Black Gaffer's Tape

PREPARATIONS

1. Speak to director and/or stage manager and inquire about the following:
   a. Where do actors stand and walk? Where is their limit of blocking?
   b. Where do actors speak the most?
   c. Where will the audience walk enter by?
   d. Will there be splashing of liquid near the edge of the stage?
   e. Is it okay to run cables along the apron of the stage?
   f. Is it okay to run cables under the seats of the audience?
   g. Will actors be passing lines on stage during set up? If so, can the actors come out for a quick audio check after they are done so that levels can be adjusted to their volume? If not, can the videographers conduct a sound check on stage.
2. Note: never approach or interrupt an actor on stage before the production.

MICROPHONE POSITIONING

Boundary Microphones (BMs) are the most effective recording device in proscenium, thrust, and small arena stages. They should be positioned in numerical order, generally from camera left to right.

Proscenium

In the proscenium stage, the actors perform for an audience seated on one side of the stage. Mics should be equally distributed along the apron (the edge of the stage) facing toward the actors, perpendicular to the apron.

Thrust

In the thrust stage, the actors perform for an audience seated on three sides of the playing area. The mics should be placed along the apron, one in the center of each of the three sides.

Small Arena

In the small arena, the audience surrounds the actors on all sides. Audio can become cumbersome for a recording at an arena considering the actors can deliver their lines. However, if it is a small arena (no more than 20 sq ft), three boundary mics distributed equally around the playing area is suffice for a good audio recording.

Precautions

1. All cables should be placed in discreet and inconspicuous spots.

2. All cables should be neatly taped down with Gaffers' tape.

3. For safety, so that no one trips on a loose cable

    a. If a cable is loose, an audience member can mistakenly move it and ruin the specific position the mic was placed in.

    b. Cables are ignored when they are neat and look "present on purpose".

    c. Tape cables down, even when run under seats.

4. All cables should have good reach of the Field Mixer.

5. Before taping down cables, make sure the female end of the 3-pin XLRs are sent toward the boundary mics. The male ends should be sent to the Field Mixer.

CONNECTION TO THE FIELD MIXER

The TASCAM Field Mixer has the capacity for 4 XLR inputs. This device allows for monitoring and control of microphone volume. It becomes very useful when actors have really loud or really quiet sequences. The mixer records on a 32 GB SD card stored in the Pelican Card Case of the Camera Kit.

Setup

1. Insert eight Rechargeable AA batteries to the back of the Field Mixer.

2. Turn On by holding the Standby/On button for two seconds.

3. Insert a blank or erasable 32 GB SD Card.

4. Format Card: If the mixer prompts you to Format, press Enter located in the center of the scroll wheel. If it does not, follow these steps:

    a. Press Menu

    b. Scroll down to Card and Press Enter.

    c. Scroll down to Format and Press Enter, and then Enter again to choose "EXEC" or "Execute".

    d. A warning message will follow reminding that formatting will erase all data. Press Enter for "yes" we are sure we want to format.

    e. In a few seconds, the mixer will have formatted the SD Card, creating the proper file directory for audio files to be stored.

5. Connect Cables: Be aware of which XLR cables represent which numbered boundary mics on stage.

    a. Insert BM #1 into the XLR input #1 of the mixer, BM #2 to input #2, and BM#3 to input #3.

6. Dock Settings: On the top of the mixer there are some switches that need to be configured to the needs of the venue. Adjust the below settings for inputs 1, 2, & 3.

    a. Switch the Input to the "MIC" setting (the "LINE" setting is if the audio signal is coming from another mixer board).

    b. Switch the Mic Gain to High or Low depending on the distance from mic to actor and how loud the actors project. If the play is generally very loud, there are many music cues, and/or the mics are close to the actors, keep the gain on LOW. If the play is generally quiet, there are few music cues, and/or the mics are far from the actors, place gain on HIGH.

    c. Switch the Phantom setting for "1-2" and "3-4" to ON. This will feed power to the mics. The BMs cannot work without electricity.

More often than not, LOW has proven too low for the recording. We usually set gain to HIGH.

Operation

1. Connect headphones (with quarter-inch adaptor) into the Phones slot at the front of the mixer, next to the display.

2. Turn the Phones volume to the center of the dial (12 'o clock position).

3. Put on the headphones.

4. Press the PAUSE button to monitor audio. The orange light over PAUSE and the red light over REC will turn on and stay constant. If there is some ambient noise on stage, the three levels should be bouncing in the mixer display meters.

5. Press the MIX LEVEL button to enter the window where one can adjust mic volume.

6. Notice how each input has a designated button on the mixer front, and a button for the master stereo MIX.

7. To adjust volume levels on individual mics, or to adjust the level of the master MIX, press the button of the desired meter and turn the VALUE knob on the mixer front.

8. To SOLO a particular input (audition only one source, muting all other inputs), hold the button for the desired meter for 2 second. A small "S" will appear above the number of the meter, which means that that input is the only one being heard through the headphones.

9. Press the MIX PAN button to enter the panning window. Make sure that all inputs are centered on the dial (12 o' clock position). This will make editing sound much easier later.

10. Press the MIX PAN button again to return to the main window.

11. When the play is about to begin, press the REC button to start recording. The timecode on the main window will run.

12. Press the PAUSE button to STOP the recording.

13. If you press the REC button while recording, it will seamlessly create a new audio file. The timecode will begin from zero without missing even a millisecond of audio.

14. To see how much recording time the SD card has left, press the DISPLAY button. The timecode will run in descending values (like a countdown).

Sound Check

1. If given permission, have an actor or a videographer walk around the space and speak some test words on stage at different volumes:

    a. Loud and hushed lines

    b. "Testing...1...2...3"

    c. "Hey!"

    d. "Pop!"

    e. Clap with hands

    f. Stomp on the ground

2. Press the MIX LEVEL button. On the far right of the display is the MIX meter, which shows the level of the stereo track that is actually being recorded to the SD Card.

3. Press the MIX button to select the MIX meter.

4. To start, turn the VALUE knob till the MIX meter reaches 75. This way if, during the recording, you need to quickly raise or lower the entire mix, it can be done under with one knob.

5. Now that the master stereo MIX is at 75, monitor the sound levels on the mic meters as the sound check is underway.

6. The BM Levels should average just around the dotted line. If levels go too far over this line, there is the risk that the audio will peak to the point of over-modulation. Keeping the levels near the average volume near the dotted line will allow for extra loud sounds during the play to register high but not distorted.

7. Have the sound check person speak the test words in an average volume near each mic, and adjust the volume of each BM to the dotted line level accordingly.

8. Once the audio is adjusted to a good level, press and hold the STANDBY/ON button for three seconds to turn off the mixer. This will conserve the battery life.

    a. NOTE: The mixer will not turn off if either the REC or the PAUSE buttons are active. Stop the recording or deactivate the audio monitoring before shutting off the device.

APPENDIX C: PRODUCTION REPORT

Below is an example on how to write a production report. You may use this template for other productions.

PRODUCTION REPORT:	"LA RETIRADA DE MOSCÚ"
TITLE:	"La Retirada de Moscú"
RECORDING DATE:	April 3rd, 2011 | 3:30PM
VENUE LOCATION:	On Stage Black Box, Dade County Auditorium (Miami, FL)
VENUE CAPACITY:	Approx. 80
SET UP TIME:	2:00PM
WRAP TIME:	5:30PM
GENERAL NOTES:	This was our first recording. We were equipped with 2 camera kits (including audio recording devices), and 2 tripods. The venue was intimate but we were able to store our equipment just behind the seating risers, and the portable seating made it easy for us to place our cameras in comfortable and effective spots without being disruptive.

Microphones were not used in this play, thus the actor's voices were not amplified and we did not need to attain a signal from any mixer. Their voices were a little lost at times when they would deliver lines upstage, but our shotgun microphones captured enough to work with. All that was amplified was occasional music cues that registered much louder in the recording levels than the actors' voices. |
| CAMERA LOCATIONS: (Angles, Shot-types) | Camera 1: Operated by Noelis. Set in Back Row, Center. Sustained a WIDE SHOT, trying to keep all characters in frame.

Camera 2: Operated by Xavier. Set in Back Row, Stage Right. Sustained MEDIUM/CLOSE-UP SHOTS of main characters per scene. Also captured reaction shots of listening characters, at his discretion. |

Camera Settings Used: (VIDEO)	Recording Setup: 1080/60i FX
	Manual Focus
	Manual Iris, f2.2 - this aperture is too large for following focus. We should record at f4.0 and add a little gain.
	Shutter Speed 1/60
	Automatic Gain - this was a setting that we did not realize we had on automatic until it began changing the lighting automatically. In the middle of the recording, I changed my camera to manual because a HIGH gain value makes the image "grainy". I would've told Noelis to change her camera setting to Manual Gain but there was no way to communicate the change to her without distracting the audience (we had no wireless communication system).
	White Balance Preset - "INDOOR" or Tungsten
	WB Temp Set - 3200K
	Shutter Speed 1/60
	Steadyshot - ON
	Speed Zoom - OFF
	Handle Zoom – 3
Camera Settings Used: (AUDIO)	Camera 1:
	CHANNEL 1 - Left (Input1): Kit Shotgun Mic, +48V of Phantom
	CHANNEL 2 - Right (Input2): Sennheiser Shotgun Mic held by Lilian in the first row connected with an XLR cable, +48V of Phantom
	Camera 2:
	CHANNEL 1 - Left (Input1): Kit Shotgun Mic mounted on Camera, +48V of Phantom
	CHANNEL 2 - Right (Input2): Sennheiser Shotgun Mic mounted on Shock Mount on Camera, +48V of Phantom
	Manual Audio Level, b/w 5 and 8 mark - the music that was played was much louder than the actors' voices, thus we had to adjust whenever music played.

APPENDIX D: EDITING WITH FINAL CUT PRO

For more detailed information about our editing procedures, please see the manual "CTDA Technical Guide" (coming soon) on the CTDA website.

LOAD FOOTAGE

1. Open the bin with the footage from the transfers or captures.
2. Double-click the clips and, in the Viewer window, see which camera is the Wide Shot of the recording.
3. Click and Drag the Wide Shot clip into the Timeline window – V1, A1, A2.

AUDIO EDITING

Editing audio levels can vary in difficulty, depending on the quality of sound recorded at the production. The production team will record audio on various microphones, but the primary devices should be the three Audio-Technica boundary microphones. One major difference with the boundary mics is that, whereas the other mics are recorded directly to the camera and attached to the video (called the Scratch track), the boundary mics are recorded separately. This means they will need to be synchronized before editing.

Editing Boundary Audio in FCP

1. Import Audio into Project:

    a. File > Import > Files... > Audio Files.

    b. Drag the audio tracks into the timeline.

2. Synchronize Audio and Video:

    a. Find a moment in the play where an actor makes a sound with a visual object (i.e. a handclap, a foot stomp/step, or any sound that causes a fast peak in the audio waveform. This will be the video anchor point to sync the separate audio.

    b. Mark the peak of the waveform with an "In" point (hit the I key).

    c. Mute the audio connected to the video.

d. Audition the boundary mics' audio tracks to find the same peaking sound being used for the syncing anchor point. When found, create a cut on the audio tracks.

e. Highlight and Drag over these audio tracks (do not separate the split tracks) and match the anchor point.

f. Highlight the cut made for syncing and press Delete.

3. Unlinking & Centering Tracks:

a. The Field mixer will create a stereo link (Left, Right) for the first two boundary mics, and leave the third mic alone in a stereo link with a fourth muted track. For organization's sake, we should unlink the tracks.

b. Highlight the first two boundary audio tracks, and Press Option + L. Green hash marks should disappear from the tracks. The first two tracks are no longer a Stereo Pair.

c. Next, highlight the second pair of boundary audio and Press Option + L.

d. Click the fourth muted track, and press Delete.

e. Because these tracks were once members of a stereo pair, they are most probably panned to one side – left or right. To center each of these new mono tracks so that their sound will be distributed to both left and right speakers, double-click the track and press "Control + ." so that the Pan is centered.

4. Adjusting Levels

a. Normal-level dialogue between actors should range between -12 to -20 VU.

b. Audio that reaches 0 VU is too high and quality will be over-modulated.

c. Activate the Toggle Clip Overlays on the bottom left-hand corner of the timeline. A red line should appear through each audio track.

d. With the Cursor tool, raise or lower the audio level line.

e. To adjust specific segments of audio, use the Pen tool to create keyframes along the toggle lines.

f. Place one keyframe at the start of the desired segment adjust.

g. Place another some frames before.

h. Place one keyframe at the end of the desired segment to adjust.

i. Place another some frames after.

j. Use the Cursor tool to raise or lower the center section of the line.   The first and last keyframes will create a ramp in and out of the audio adjustment.