Lightboard Instructions Table of Contents

A) Powering up the System for Lightboard ONLY Recordings.

1) Turn on the four Asus computer monitors, the two larger ones have a power light in the front and the two smaller ones have a power light under the right side so you can tell if they are on.
2) Turn on the two Sharp 55" televisions using the remote and look for the small white power light in the center/bottom of the TV to tell if they are on.
3) Turn on the studio lights…..
   a) Turn on the wall switch for back lights.
   b) Turn on the power strip switch under the lightboard.
   c) Turn on ONLY the top switch on the light next to the computer desk.

4) Turn **OFF** the in ceiling room lights.

5) Turn on the main camera, the Panasonic GH4, located between the two large TV's. The power switch is located on TOP of the camera to the right of the eyepiece. It's a little small lever next to the round knob and it pushes forward for on and backwards for off. The camera may have a black cloth laying over it to protect the mirror from dust, if so carefully take the cloth off and hang the cloth on the shelf brackets below the camera.

6) Using **ONLY** the smaller front ¼" wide knobby ring on the camera lens, focus the camera on the lightboard by turning the ring towards the wall. Look at either the camera's view screen or the large TV to see the image. It helps to write something on the glass in the center of the board to help you focus The camera will automatically zoom in while you focus to help you and then it will automatically zoom back out once you stop focusing the lens and pause for 15 seconds. Do **NOT** adjust the larger knobby ring on the camera….this ring manually zooms the lens in and out **and that should not be adjusted.**

7) Turn on the Lightboard Feed Computer and login using the Lightboard username and password credentials for the lightboard (not your own Gatorlink credentials) and **wait for it to boot up before proceeding**.

8) Look at the ATEM Production Switcher's tiny screen and buttons. Be sure button "3" is lighted and that you can see the Windows computer screen in the ATEM's tiny video monitor.
(If you can't see the Windows screen on the ATEM's tiny monitor but you can see it on the large ASUS Lightboard Feed Computer Extended Screen then it means the video switcher has dropped the signal. To fix it, look at the Jtech HDMI 2-way splitter located behind the ASUS monitors. One of those splitters is marked……unplug the Output 1 cable for a few seconds and then plug it back in and this should fix the problem.)

9) Turn on the Lightboard Master Computer and login with the Lightboard credentials (not your own).

10) Turn on the Microphone receiver built into the equipment rack stand (Just Mic 1 or Mic 1 and Mic 2 if you have two speakers).

11) Turn on the Mackie audio mixing board (power switch located on back right side next to the power cord but be careful, there are two switches back there…one for power and one for "phantom power", you want the power switch not the phantom power).

12) Turn on the TOA audio equalizer (power button on right side).

13) Turn on the iPad mini and be sure the **Strata-Lite** app is running. It may take it a minute to get on the wireless network and connect to the video switcher. Once its connected there will be a small green connection light in the upper right corner of the app….if it's not green it's not connected. Fixing connection issues is usually easy, enter the settings tab on the app and "save" the configuration as it is with no changes and that should solve the problem. If the app crashes just restart the app and try again.

14) Put a newly charged 9V battery in the microphone transmitter body pack and turn it on. If the light flashes red and goes out the battery is good. If the red light stays on then the battery is weak and needs replacement.

15) On the Lightboard Master Computer run the ATEM software icon and the Media Express software icon located in the lower left corner of the desktop. Follow the instructions later in this guide for operating the ATEM software and the Media Express software to setup the system for your recording.

16) Put the headphones on your head and with the microphone turned on listen to yourself speak to check the audio quality and make sure the audio signal is working.

17) After setting your folder and file name in Media Express press the "Capture" button and make a recording by controlling the camera view through the Strata Lite App on the iPad.

B) **Powering up the system for Lightboard PLUS Computer Screencast Recordings**.

1) Turn everything in Part A above ON just as you would for a Lightboard alone recording.

2) Turn on the Mediasite Computer and Smart Podium Monitor and login to the computer using the Lightboard credentials (not your own).

3) Turn on the small Canon camcorder and adjust the camera's view for your height using the knobs on the camera's tripod. Be sure to keep the iPad and the lights out of view of the camera…the camera should see only the instructor and a black background.

4) Start Mediasite Desktop Recorder 2 and select your account from the drop down menu. If you have never used Mediasite Desktop Recorder on this computer before you will need to associate your Mediasite account to the recorder. To associate your account, login to the universities main Mediasite website through a web browser. Once logged in to your account there will be a button in the bottom left corner to "Download Desktop Recorder" (but you will not actually download the program). Press the "Download" button and it will load a new page, on the new page you will have the option to "Register Desktop Recorder" on the right side. Click that button and it will associate this computer with your account and your name will appear in the drop down menu within Mediasite Desktop Recorder. Now you will be able to use the recorder to make videos and they will automatically upload into your account.

Introduction to Starting and Stopping a Lightboard Recording:

On the Master Computer's desktop in the bottom left corner there are icons for the two programs that you need to run. First I will describe the basic function of each program and then below the list I will give a general description of how each of the programs function.

1. *Blackmagic Media Express*: The icon for this program looks like an old movie reel. This program will be used to make the recordings of your videos. We will only use a portion of this program and there will be several options and buttons we cannot use with our equipment.

2. *Blackmagic ATEM Software Control Panel*: The icon for this program looks like a red target. This program controls the video switcher and changes between various camera viewpoints or computer graphics. It also mixes in the computer graphics (PowerPoint) with your camera view.

## General Explanation of Media Express and its Recording Options:

When you first run Media Express you will see a screen that looks something like the picture below.
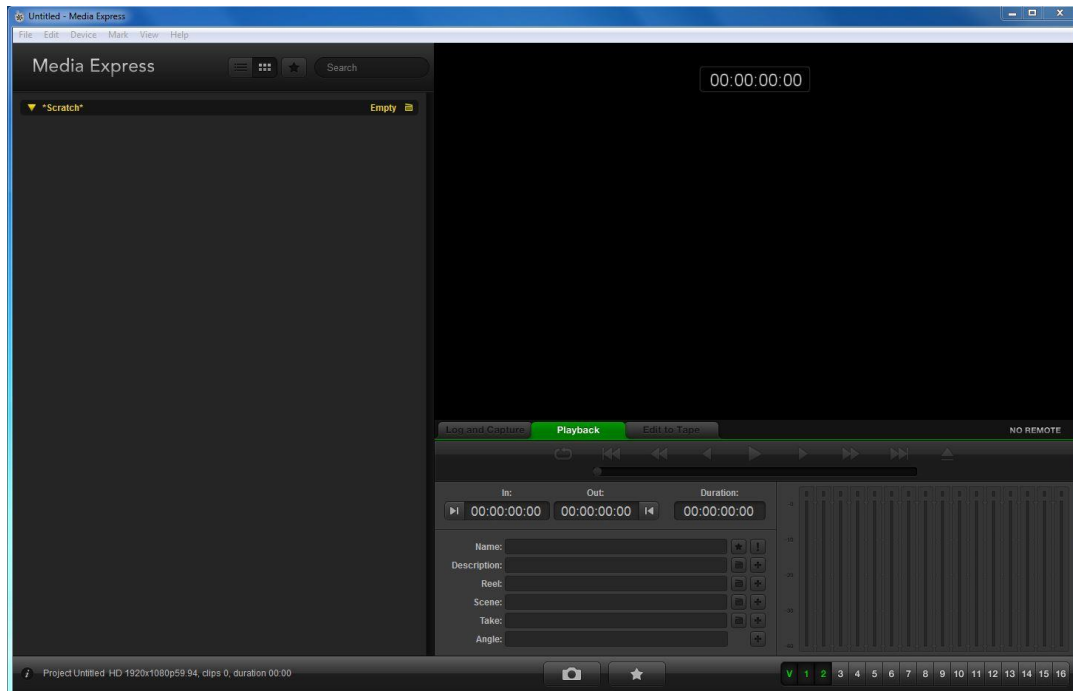
Once the program is open go to the top of the program and find the "**Edit**" menu and select the "**Preferences**" option with that menu. When you select "Preferences" it will load the settings screen as shown in the picture on the next page. The only setting you want to change is the **"Capture Audio and Video To:"** folder so your files are stored in the location of your choice for your course. Note that this does NOT set your file name, it only sets where your file will be stored. The "Capture Still Frames" folder could also be set to match your video folder if desired but is not necessary unless you are going to use captured still frames (pictures) from your video. Once you have set your file storage location click "OK" to save the settings as seen below.
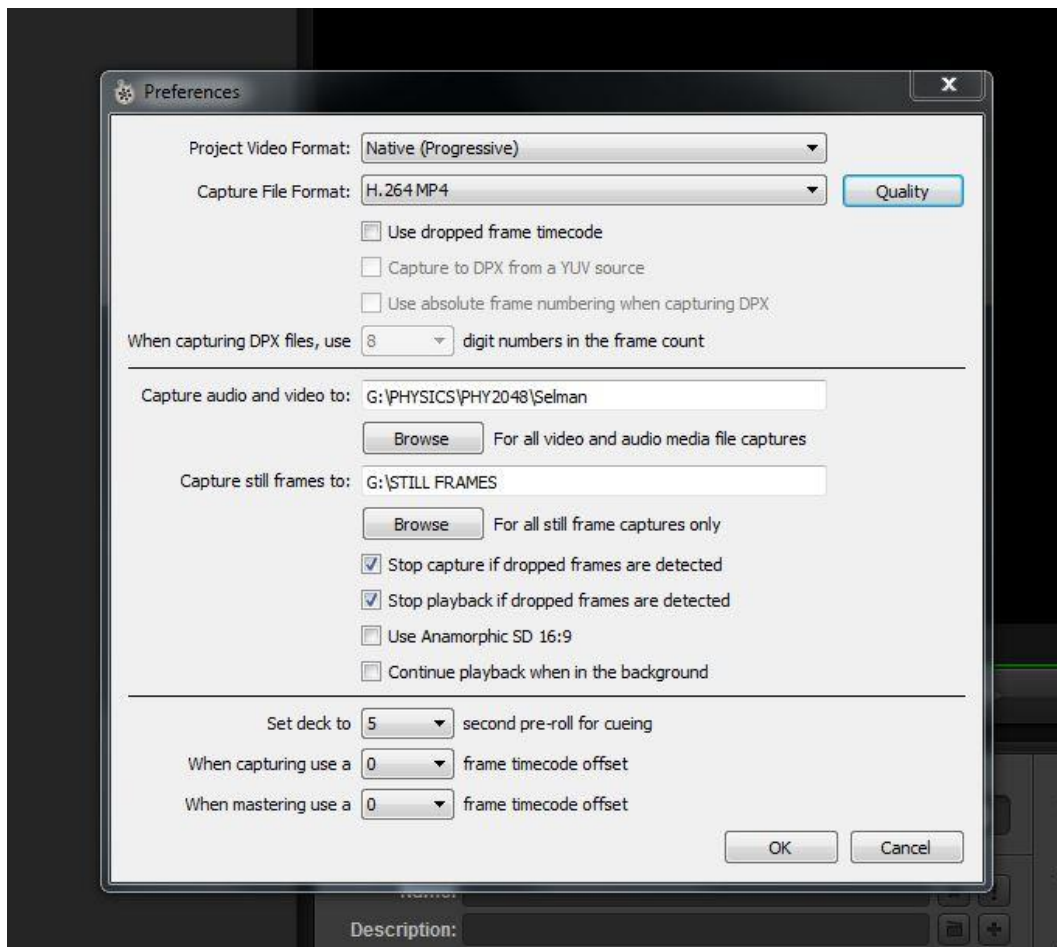
After you clicked "OK" to save your preference settings you will be back looking at the first Media Express screen and the "Playback" tab at the bottom of the screen should be green. Next to "Playback" is a tab called "Log and Capture", press that tab and you should see the following.
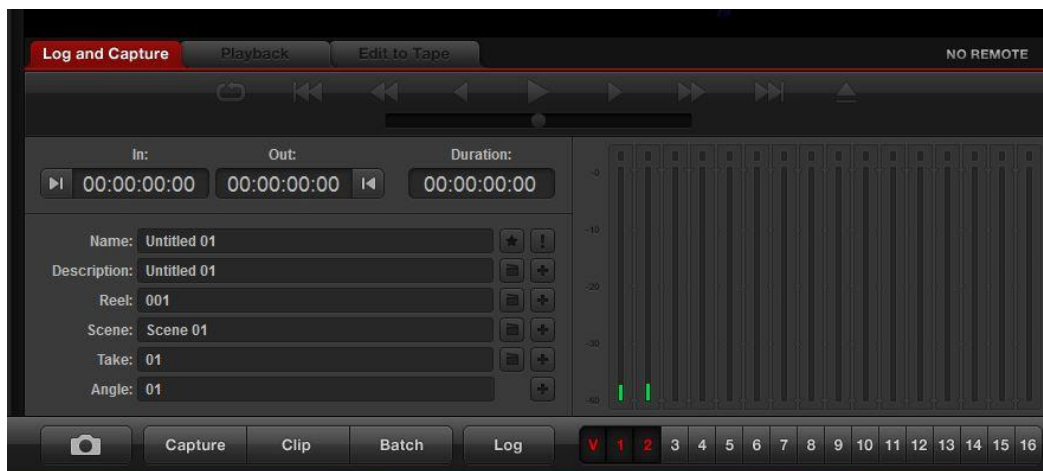
Notice now that the "**Log and Capture**" tab is **red** if you have selected it properly. Within that tab you will see a line called "**Description**". Although it seems a bit odd, Description is actually where you set the name of the file you want to create by typing in your filename. Create a file naming system that makes sense to you and use that system consistently. Something like "Chapter_3_Lesson_2" where you increment the numbers based on what you are teaching would be a good start. Note that this is where you set the name of the file you are creating while it was under "preferences" that you set the location your file will be saved.

Once you have typed in the name you want to use as your filename in the Description area you will notice a small " + " sign to the right of the Description line.

Press the " + " sign and it will copy the filename you typed into the Description area up into the "Name" line above as shown in the picture. As for the other settings such as Reel, Scene, Take and Angle....you can ignore those settings unless you are working on a full "Hollywood" movie and need advanced settings.

*Now that you have set the storage location of your file under "Preferences" and the name of your file in the "Description" you are ready to capture a recording. To capture your video recording press the "**Capture**" button and it will immediately start recording your video to the hard drive.*

While capturing the screen will look like the following picture.

*Press the "**Capture**" button again to stop your recording.*

When you stop your recording it will appear in Media Express on the left side. If you take multiple videos (or takes) Media Express will automatically increment the file name by adding a number on to the name you gave it as seen in the image below.

You can then select your recording and go to the "Playback" tab and play it. However, reports have come to me that the playback function can get confused and get the audio and video out of sync so I actually recommend you don't use the playback feature of the software and go directly to your stored file and play it back directly through Windows 7.


If you want to capture a still frame snapshot from the camera view you can press the "Camera" icon next to the capture button and it will take a single picture image and store it in the still image folder defined under the "Preferences" settings. As for the "Clip", "Batch" and "Log" buttons they do not work with the equipment we are using (they require a digital video editing tape deck to be used and we don't have one).

For very advanced users, if you are working on a large project and you want to keep track of all your files you can go up to the "File" menu and select "Save As" to save your project.

General Explanation of the ATEM Software Control Panel and AUTO Switches between Camera Views:

The settings on the ATEM Software on the Master computer will look like this picture.
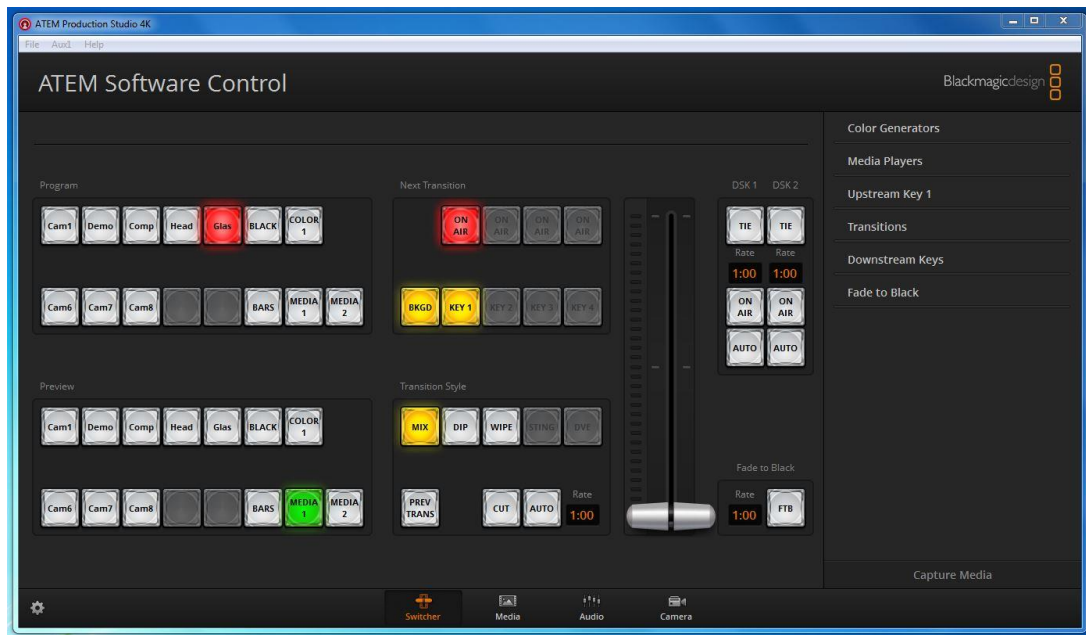
The top left buttons under the "Program" label shows the various camera options. Whichever button is marked in RED is the camera view that is being recorded right now. For merging in PowerPoint with you in the lightboard (the most common recording method) you want the "Glas", which is the Lightboard main camera, button to be RED. To the right of the cameras is a section called "Next Transition" and under there you want the "ON AIR" button RED and the "BKGD" and "KEY 1" buttons YELLOW. It's the combination of these three transition buttons that merges the PowerPoint slides into the camera view so you can exist inside your slides. If you do NOT want PowerPoint mixed into the Lightboard then turn off the "ON AIR" and "Key 1" buttons.

The bottom left buttons under the "Preview" label shows the same camera options. Whichever button is selected GREEN under Preview will be the camera view that is switched to on the next camera change. In this case we want "Media 1" to be marked in GREEN because Media 1 is where the picture of the UF Logo is loaded.

To the right of the Preview area is a section called "Transition Style" and this is the section where you can set up how the system changes between different camera views. The settings are "Mix", "Dip", and "Wipe" with the most commonly used one being "Mix". Whichever one is selected in yellow is how the camera transition will change. "Mix" slowly blends from one camera view to the other camera view. "Dip" changes from one camera view to something like the UF Logo and then to the other camera view. "Wipe" literally wipes one camera off with the other camera using different patterns like diagonals or diamonds. How quickly these changes occur is based on the "Rate" number. The settings for Mix, Dip and Wipe are under the "Transitions" tab on the far right of the software between the Upstream and Downstream Key tabs. *If you change any of these transition settings please return the settings back to the original settings when you are finished.*

Changes between which camera is in Program and being recorded and which camera is in Preview (not being recorded but ready to be switched to next) are called switches and they occur when you press the **"AUTO"** button. How exactly the switch between Program and Preview camera views occurs depends on the Transition style you've selected.

Four Video Mixing Methods for the Lightboard and Quickly Changing Between Those Methods:

There are four basic ways to make recordings on the Lightboard depending on how you want your recording to look. The settings for each of these methods is described in detail in a separate section later in this guide but for the moment this section will tell you how to quickly change between

the methods and automatically set up the video mixing switcher for you. Those four methods are the following;

1. **Graphics Over Instructor:** _This is by far the most common method of making a recording._ In this method the instructor appears behind the mixed in computer graphics and the graphics appear solid.
2. **Instructor Over Graphics:** In this method the instructor will appear on top of the graphics and will block the graphics. This can be used to make an instructor appear as if they are at a remote location (like a beach in Bora Bora!!) or appear out in space. Careful selection of instructor clothing is necessary so they contrast as strongly as possible with the black background behind the Lightboard. Also, careful adjustment of the "Clip" and "Gain" on the Upstream Key will be needed to maximize the effect.
3. **"Ghostly Mixture" of the Instructor and the Graphics:** In this method the instructor can be seen through the somewhat transparent graphics so they can interact with the graphics in a different way.
4. **"Cursor Pointer" Through the Graphics:** In this method the graphics are over the instructor like in method 1 but the instructor can use a bright flashlight and point it through the graphics like a cursor or pointer.

You can quickly change between these four recording methods by following these steps.

A. In the ATEM software go to the upper left corner "File" menu and select "Restore" from the menu.
B. When the open file window pops up navigate to the "My Documents" area and open a folder called "Video Switcher Settings".
C. Open the file that matches the method of recording that you would like to do (Graphics Over Instructor, Instructor Over Graphics, Ghostly Mixture, or Cursor Pointer).
D. When the file loads it will pop up a window that asks you what settings you would like to restore…..be sure select all is checked and restore it. It will look like the pictures below.
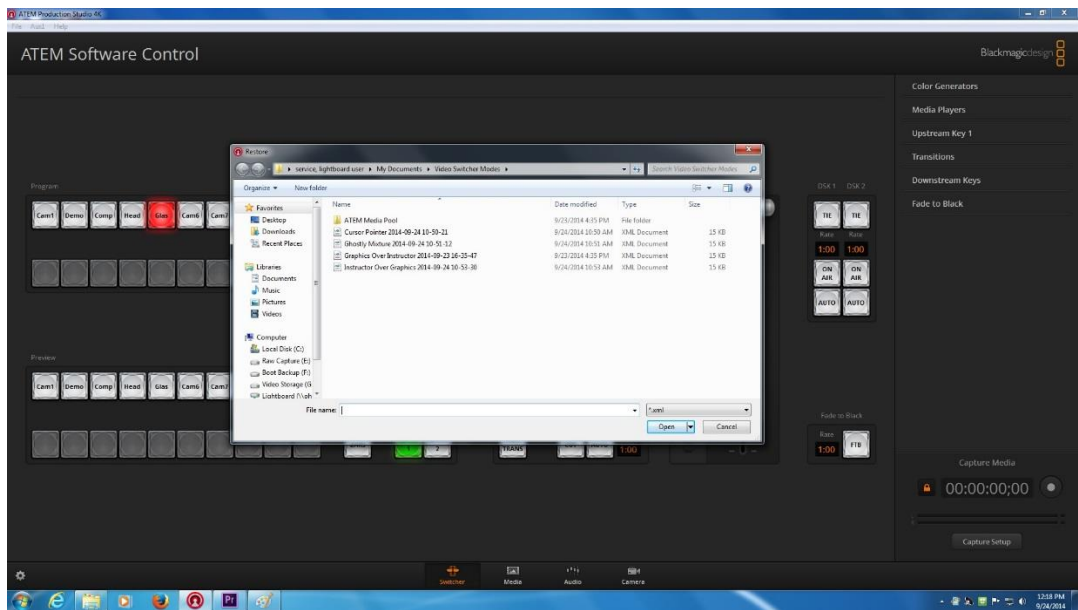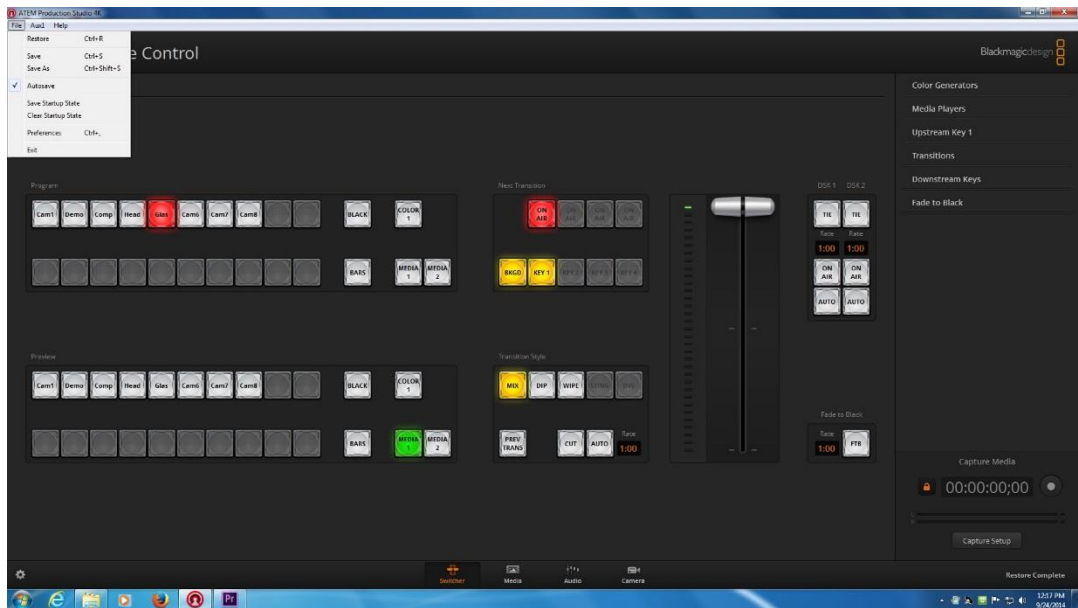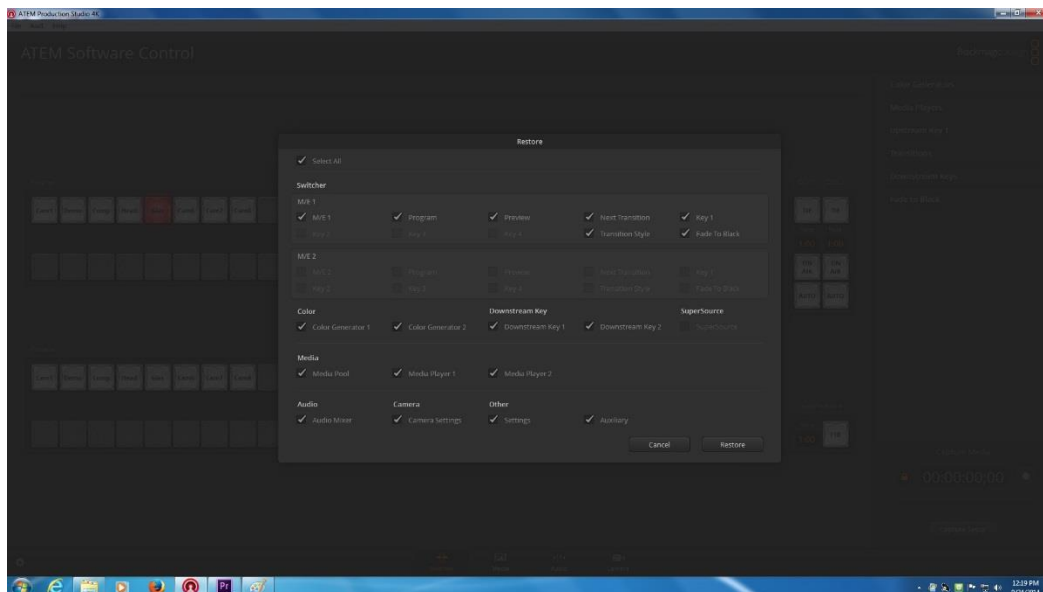
Once you click the "Restore" button you will be setup in the recording method of your choice. For more information about each method see the detailed description later in this guide.

Detailed Procedures for Using Different Recording Methods: Following the instructions above will quickly set up the switcher for the video mixing method of your choice but listed below are detailed instructions on the recommended procedures to make a recording.
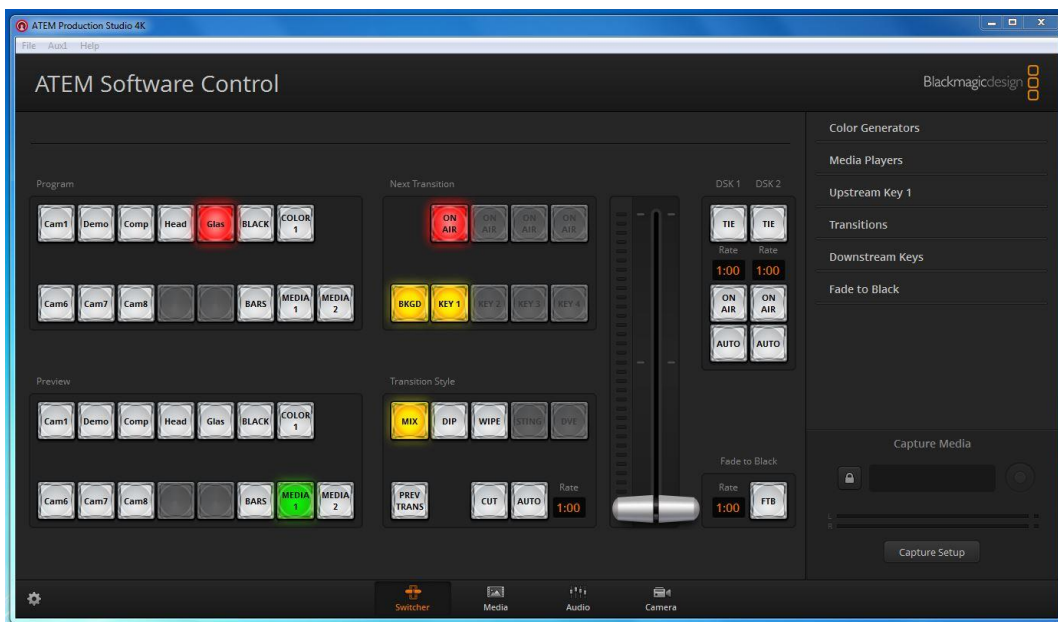
Procedure for Recording while Merging in PowerPoint on the Lightboard and Switching to UF Logo (Graphics Over Instructor):

This is the most common recording method and it allows you to switch from the UF Logo to a view of the Lightboard with you standing inside of your PowerPoint slides.

1) Set the Program to "Glas" (be sure it's the red colored button) and set the Next Transition "ON AIR" button to red, and the "BKGD" and "Key 1" buttons to yellow.
2) Set the Preview to Media 1 (be sure it's the green button) and the transition style to Mix (yellow).

3) The settings in the software should look like the picture shown below this list.
4) Go to the Lightboard Feed Computer and start your PowerPoint slideshow.
5) Now practice pressing the "Auto" button located BELOW the transition style area several times and the system should change each time between the UF logo and the Lightboard that includes your PowerPoint. Look at the Multiview Monitor (or big TV) to see it change. _Warning: Do not confuse the AUTO button for transitions with the two other AUTO buttons under DSK1/2 on the far right._
6) Start your recording using the ATEM Control Software while showing the UF Logo. Now walk behind the Lightboard and quietly pause there for 5 seconds so you create a good editing point at the start of your recording.
7) Press Auto on the iPad Strata Lite App to transition from the logo to the lightboard and teach your lesson. When finished press Auto again to transition back to the logo and stand quietly for 5 seconds again to create a clean end to your video for editing purposes.
8) Walk back to the Master Computer and stop your recording.

Picture of software settings for recording while merging in PowerPoint on the lightboard and switching to the UF logo.
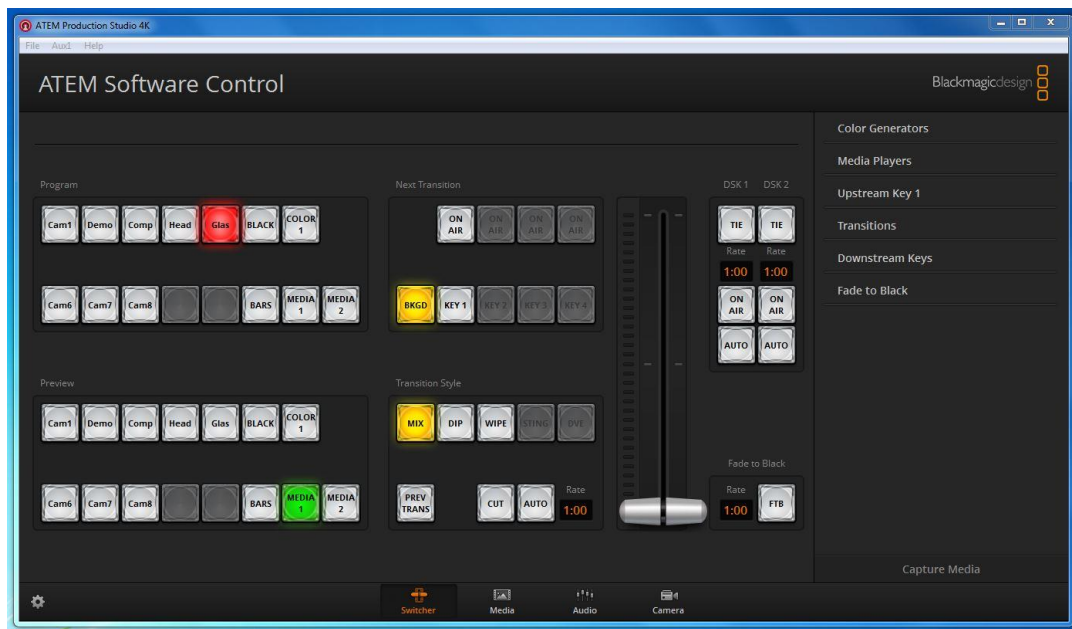
Procedure for Recording WITHOUT USING PowerPoint on the Lightboard and Switching to UF Logo:

This recording method basically uses the Lightboard as a blackboard only and it allows you to switch from the UF Logo to a view of the Lightboard without merging in any PowerPoint.

1) Set the Program to "Glas" (be sure it's the red colored button) and set the Next Transition "ON AIR" button to white (off), and the "Key 1" button to white (off).
2) Set the Preview to Media 1 (be sure it's the green button) and the transition style to Mix (yellow).
3) The settings in the software should look like the picture shown below this list on the next page.
4) Now practice pressing the "Auto" button located BELOW the transition style area several times and the system should change each time between the UF logo and the Lightboard. Look at the Multiview Monitor (or big TV) to see it change. *Warning: Do not confuse the AUTO button for transitions with the two other AUTO buttons under DSK1/2 on the far right.*
5) Start your recording using the ATEM Control Software while showing the UF Logo. Now walk behind the Lightboard and quietly pause there for 5 seconds so you create a good editing point at the start of your recording.
6) Press Auto on the iPad Strata Lite App to transition from the logo to the lightboard and teach your lesson. When finished press Auto again to transition back to the logo and stand quietly for 5 seconds again to create a clean end to your video for editing purposes.
7) Walk back to the Master Computer and stop your recording.

Picture of software settings for recording WITHOUT USING PowerPoint on the Lightboard and switching to the UF Logo.

Procedure for Recording Computer Screencast and the Lightboard with Switching to the Headshot Camera (Using Mediasite):

This allows you to switch from the Head Shot camera to a view of the Lightboard with you standing inside of your PowerPoint slides (or not) and to simultaneously record whatever you are showing on the Mediasite computer. This creates TWO synced video streams in Mediasite that the students can switch between while viewing your class lesson. *Be sure you followed Part A as well as Part B on how to turn the system on.* **This recording method can also be used to capture live data from an experiment while using the PASCO Scientific hardware (see John Mocko).**

Setup:
1) If you want to use PowerPoint on the Lightboard set the Program to "Glas" (be sure it's the red colored button) and set the Next Transition "ON AIR" button to red, and the "BKGD" and "Key 1" buttons to yellow. If you do not want to use PowerPoint within the Lightboard then turn off the "ON AIR" and "Key 1" buttons (make them the white).

2) Set the Preview to "Head" (be sure it's the green button) and the transition style to Mix (yellow).
3) The settings in the software should look like the picture shown below this list on the next two pages whether you include PowerPoint or not.
4) Go to the Lightboard Feed Computer and start your PowerPoint slideshow.
5) Go to the Mediasite Computer and login and setup whatever you would like to record from the computers screen (see page 28 for more details).
6) Go the Canon Headshot Camera and align it so you see yourself on its screen and nothing but black background behind you.
7) Now practice pressing the "Auto" button located BELOW the transition style area several times and the system should change each time between the Head shot and the Lightboard. Look at the Multiview Monitor (or big TV) to see it change. _Warning: Do not confuse the AUTO button for transitions with the two other AUTO buttons under DSK1/2 on the far right._
8) Using the iPad and the Strata Lite app, push the "Auto" button to set the "Head" shot as Program and the "Glas" as Preview.

Starting your recording with this method is quite different because you DO NOT use the ATEM Software. Instead you run the Mediasite Desktop Recorder Software located on the Mediasite computer. **Be sure your Mediasite account is associated with Desktop Recorder on this computer and once your run the recorder select your account from the drop down menu.** If you do not select your account then your recording will end up in someone else's Mediasite account. If you do not know how to operate Mediasite Desktop Recorders software look at page 28 of this guide for the section on how to operate it.
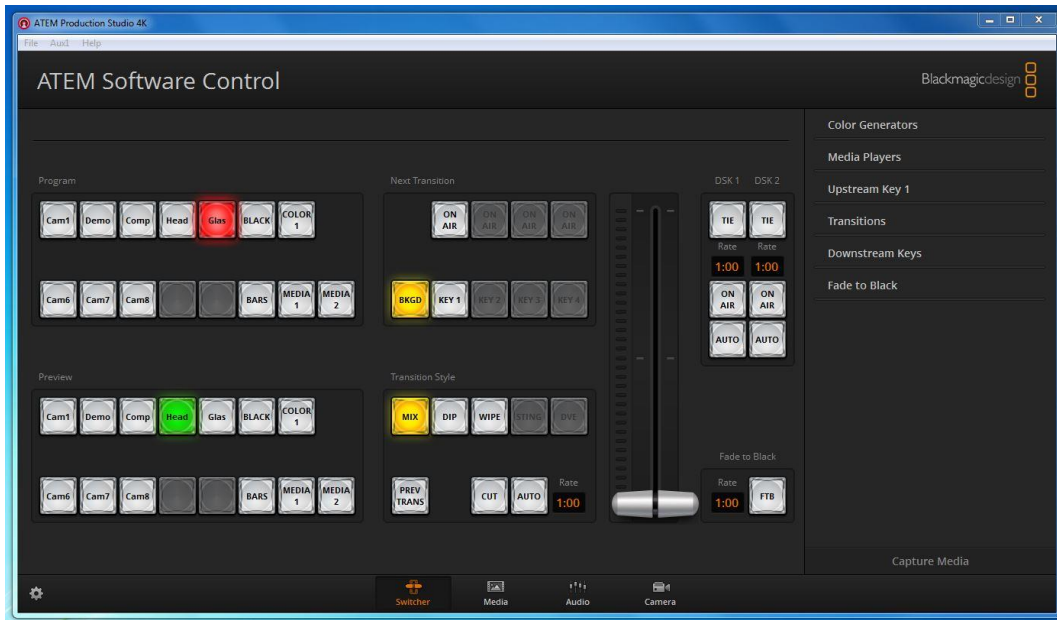
Recording:

1) Start recording with Desktop Recorder and wait for its 5 second countdown to complete and it actually starts recording. Once it starts recording check your arrangement of your computer screen so it records what you want to see from the computer.

2) Wait quietly for 5 more seconds while looking at the Head shot camera so you create a good editing point at the start of your recording then teach your lesson.
3) Press Auto on the iPad to transition back and forth from the Head shot to the lightboard and continue teaching your lesson.
4) When finished stand quietly for 5 seconds again to create a clean end to your video for editing purposes.
5) Stop Mediasite Desktop Recorder from recording by pressing the pause icon button in the bottom right corner of the desktop near the clock. Your final video will automatically be uploaded into your Mediasite account.

Picture of ATEM software settings for recording **while merging in PowerPoint** on the lightboard and switching to the Head shot camera.
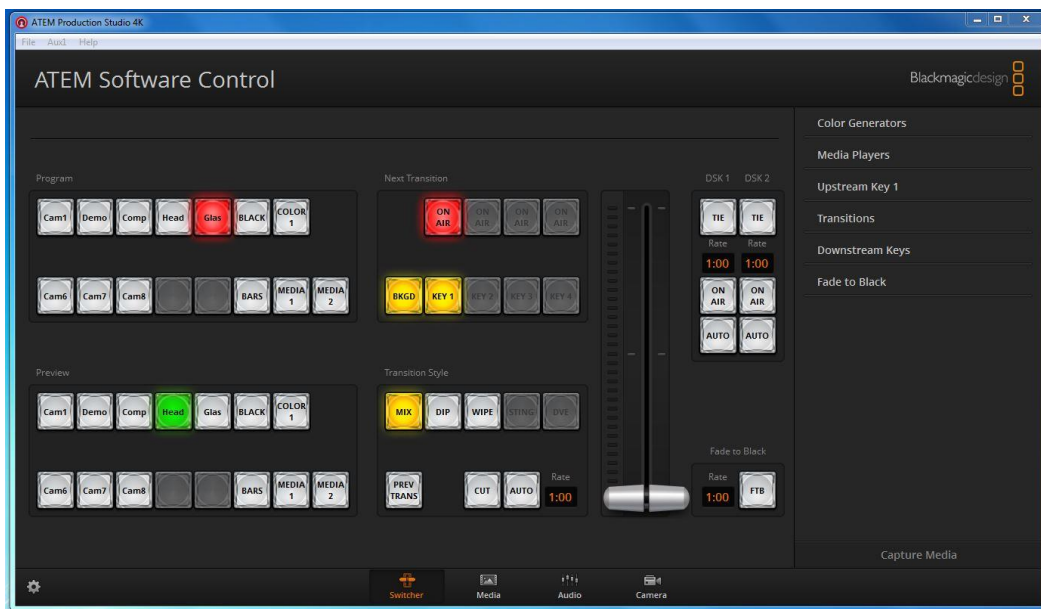
If you want to record the Mediasite desktop and the Lightboard **but DO NOT want to merge PowerPoint** into the Lightboard then turn OFF (make the buttons white) the "On Air" and "Key 1" buttons as shown below.
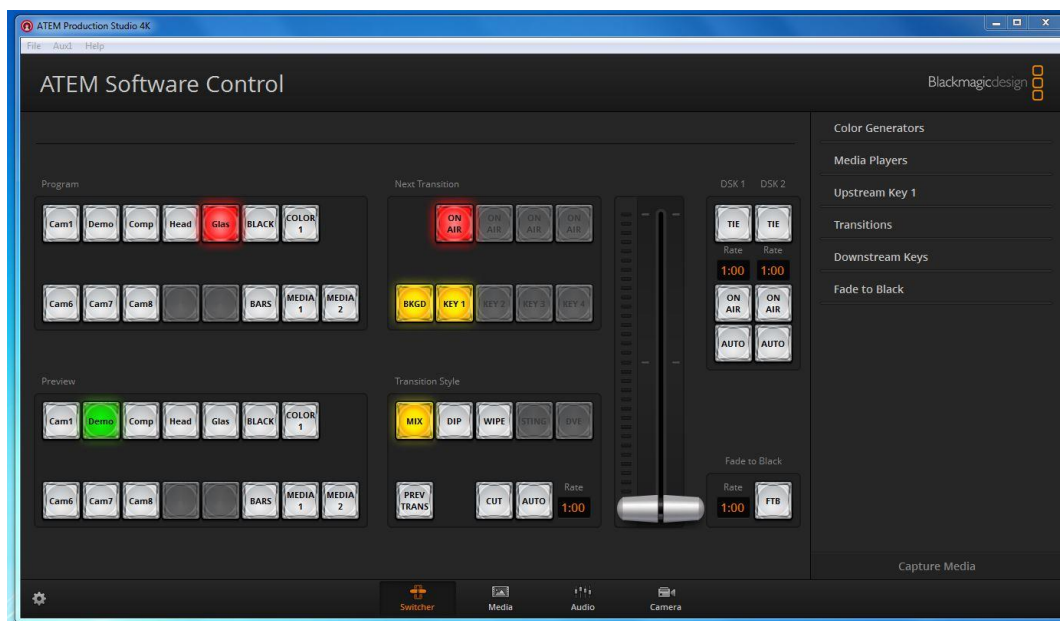
Procedure for Recording on the Lightboard and Switching to the Demo Camera:

This allows you to switch from the Demo Camera to a view of the Lightboard with or without you standing inside of your PowerPoint slides. Before recording with this method be sure you have the Demo camera plugged in to the coiled up HDMI cable sitting on top of the audio equipment rack and that the camera is turned on and adjusted to show off your demo experiment.

1) If you want to use PowerPoint on the Lightboard set the Program to "Glas" (be sure it's the red colored button) and set the Next Transition "ON AIR" button to red, and the "BKGD" and "Key 1" buttons to yellow. If you do not want to use PowerPoint within the Lightboard then turn off the "ON AIR" and "Key 1" buttons (make them the white).
2) Set the Preview to "Demo" (be sure it's the green button) and the transition style to Mix (yellow).
3) The settings in the software should look like the pictures shown below this list on the next page.

4) Go to the Lightboard Feed Computer and start your PowerPoint slideshow if you are using it within the Lightboard.
5) *Now practice pressing the "Auto" button located in the BELOW the transition style area several times and the system should change each time between the Demo camera and the Lightboard that includes your PowerPoint. Look at the Multiview Monitor (or big TV) to see it change. Warning: Do not confuse the AUTO button for transitions with the two other AUTO buttons under DSK1/2 on the far right.*
6) Start your recording using the ATEM Control Software while showing the camera view of your choice. Now walk into your camera view and quietly pause there for 5 seconds so you create a good editing point at the start of your recording.
7) Press Auto on the iPad Strata Lite App to transition back and forth from the Demo camera to the lightboard and teach your lesson. When finished stand quietly for 5 seconds again to create a clean end to your video for editing purposes.
8) Walk back to the Master Computer and stop your recording.

Picture of software settings for recording **while merging in PowerPoint** on the lightboard and switching to the Demo Camera.

Picture of software settings for recording but **NOT merging in PowerPoint** on the lightboard and switching to the Demo Camera.
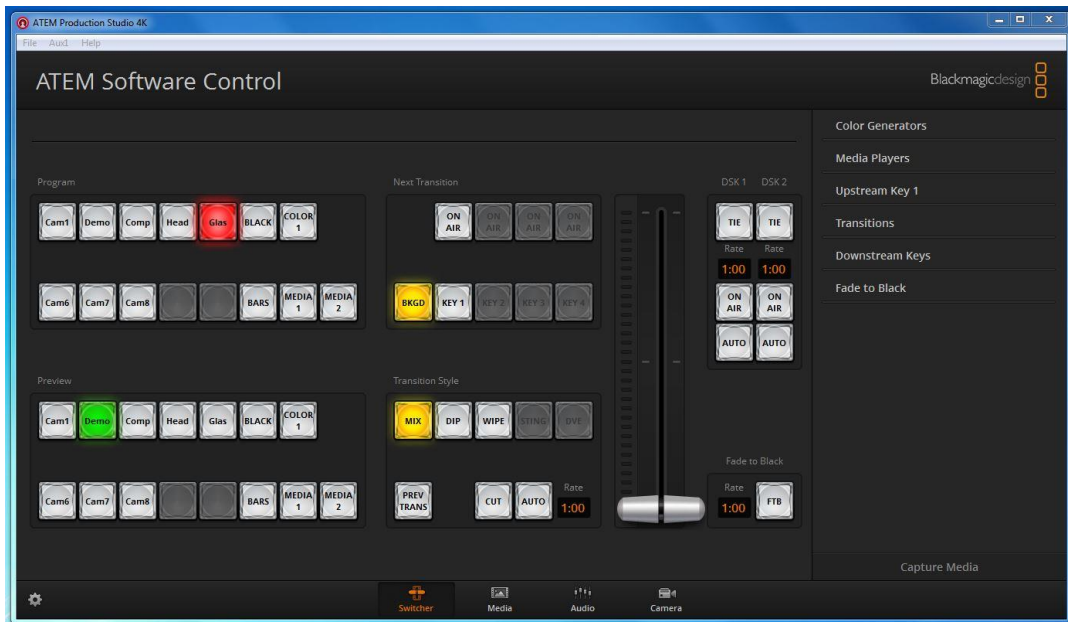
Important Note: *Switching between three or more camera views like the Lightboard, the Head shot, the Demo camera and/or the UF Logo during a single recording can be done but is really best accomplished with an operator in the recording room to help the instructor make the switches on the ATEM Software Control Panel. An instructor can do it by themselves in a limited fashion with strong planning ahead skills but honestly it just gets a bit complex to manage it and teach at the same time.*

Troubleshooting Guide:

Audio Issues:

1) *Locked green audio bars in the "Capture Media" L and R tab.*
   A. If you can see the green audio bars but they are not moving and reacting when you talk into the microphone then a software bug has hit.

B. To fix it you can click on the "Capture Setup" button and when the settings window pops up go ahead and "Select" your saved settings again and it should fix the issue.

2) *Missing green audio bars in the "Capture Media" L and R tab*.
    A. First click on the Audio tab at the bottom center of the software located between the Media and Camera tabs. A picture of the software will look like the image below.
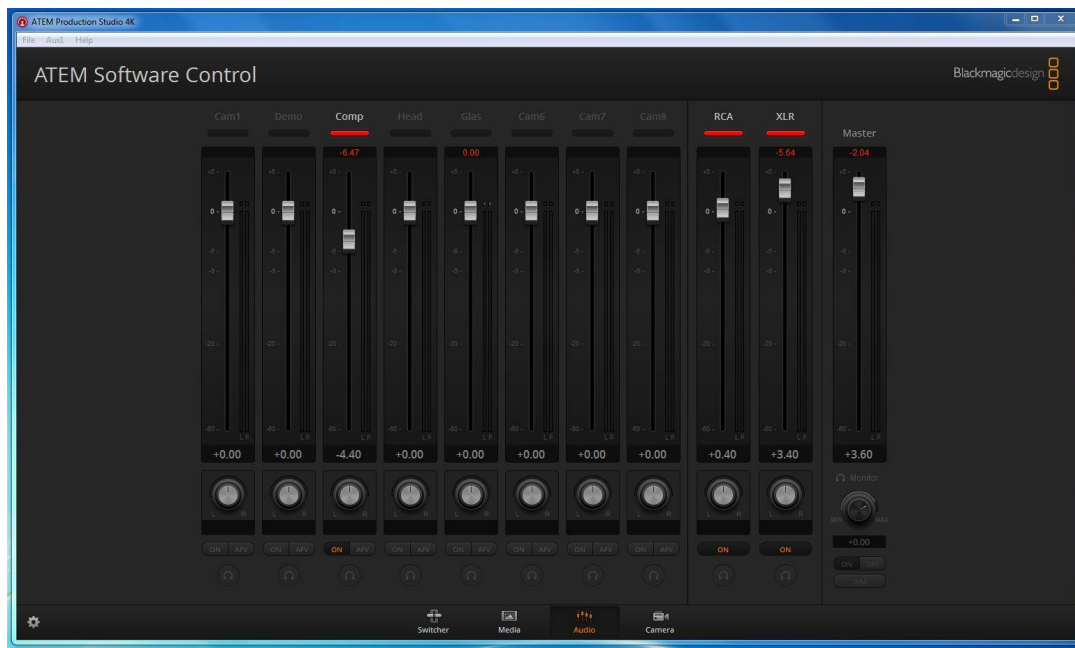
B. Check to see if you can see green bars moving on the "Master" audio slider located all the way on the right hand side of the screen. If the Master audio does not have green bars then go back and make sure you have turned on all of the audio equipment including the microphone transmitter, microphone receiver, equalizer, and audio mixer.
C. If the Master audio DOES have green bars then the audio is working but the H.264 Recorder has crashed and needs to be rebooted. To reboot the H.264 Recorder reach under the desk and look for it sitting on top of the Master Computer. Unplug the

power and USB cables leading into the H.264 Recorder for a few seconds and then plug the power cable back in first. Wait a few seconds and then plug the USB cable back into the recorder. Wait 15 seconds and then try testing the audio again and see if you get green bars on the Capture Media tab. If it doesn't work you may need to reboot the entire Master computer to make it refresh the connection to the H.264 Recorder.

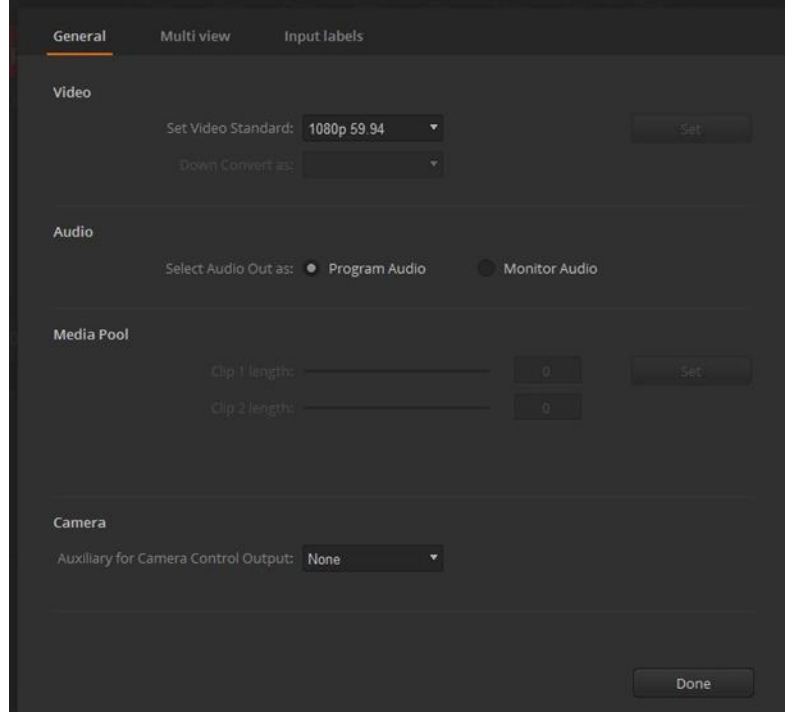**Video Issues:**

1) *Video is Discolored or Breaking up into Blocks:*
   If the video is discolored or "blocky" chances are you have also lost the audio from the Capture Media L and R bars. The solution is the same….reboot the H.264 Recorder. To reboot the H.264 Recorder reach under the desk and look for it sitting on top of the Master Computer. Unplug the power and USB cables leading into the H.264 Recorder for a few seconds and then plug the power cable back in first. Wait a few seconds and then plug the USB cable back into the recorder. Wait 15 seconds and then try testing a recording again and see if the colors are correct in your recording. If it doesn't work you may need to reboot the entire Master computer to make it refresh the connection to the H.264 Recorder.

2) *Grey Button to Start a Recording is Not Working:*
   If you press the grey button in the capture media tab to start your recording but nothing happens and the 00:00:00:00 clock either doesn't appear or doesn't start counting then you have been hit by a software bug. The only solution is to close the entire ATEM Software program and restart the program.

Advanced Settings:

The following settings are intended only for advanced users who may want to adjust things for a special purpose, **if you do adjust any of these settings please return them back to the original settings for other users.** *Some of these settings should not be adjusted by users*; these pictures just act as documentation on how the software is setup in case of a system crash.

	General Settings Tab: **Users should not change anything in this tab**…..basically it defines the video standard of 1080P 59.94 hertz and the Program audio.
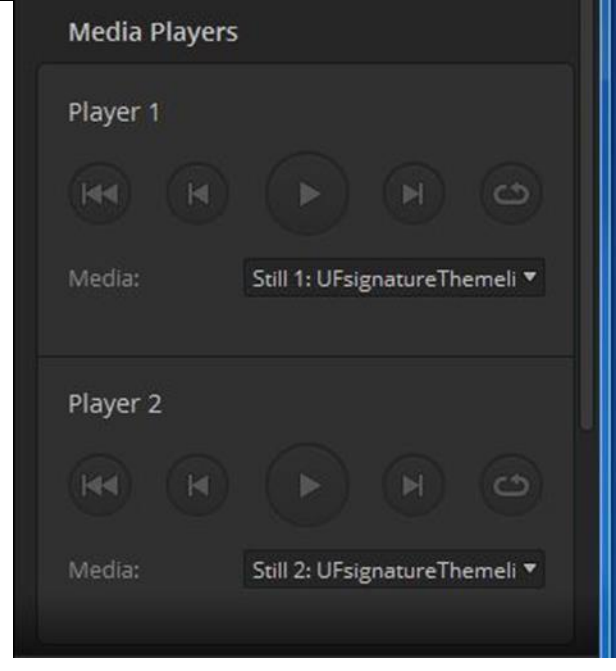
General **Multi view** Input labels Layout Camera Layout Preview Program ComputerPPT ▾ Headshot ▾ Lightboard ▾ DemoCamera ▾ Black ▾ Black ▾ Black ▾ Black ▾ Done	**Multiview Tab:** **Users should not change anything in this tab.** These settings adjust the layout of the Multiview screen.
General Multi view **Input labels** Input Name Label Input Name Label 1 HDMI ▾ Camera 1 Cam1 11 ▾ 2 HDMI ▾ DemoCamera Demo 12 ▾ 3 HDMI ▾ ComputerPPT Comp 13 ▾ 4 HDMI ▾ Headshot Head 14 ▾ 5 SDI ▾ Lightboard Glas 15 ▾ 6 SDI ▾ Camera 6 Cam6 16 ▾ 7 SDI ▾ Camera 7 Cam7 17 ▾ 8 SDI ▾ Camera 8 Cam8 18 ▾ 9 ▾ 19 ▾ 10 ▾ 20 ▾ Cancel Save	**Input Labels:** **Users should not change anything in this tab.** This allows customization of the names of the camera views for the inputs.

Media Player Settings:

Media Players 1 and 2 currently contain the UF logo graphics used at the start and finish of Lightboard recordings. Technically any picture, video, or audio can be loaded into these Media Players. **Only advanced users should attempt to make changes in the Media Players (and then return it to the original setting of the UF Logo).** To change what is loaded in a Media Player select the Main Media Tab at the bottom center of the screen.

Main Media Tab:
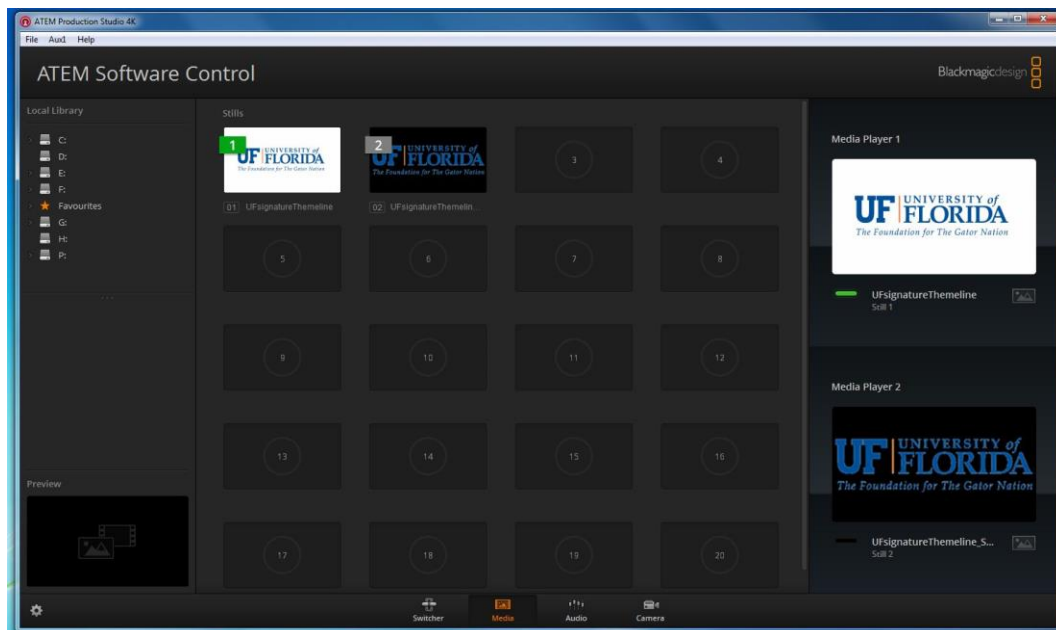
The Main Media Tab consists of a file directory on the left side and a center area with media holding locations for media to be loaded. To load media into a holding location drag the media from the directory on the left side

into one of the squares in the center area. Once your media is loaded drag the media over to Media 1 or Media 2's player on the right side. What is currently loaded into Media 1 and Media 2 is shown on the right.

Audio Settings Tab:

This tab shows all the audio inputs available to the system and **should not be adjusted by general users**. Basically the settings show that the Lightboard Feed Computers audio is turned on (marked with red), the RCA jacks that allow audio in from the Mediasite Computer are turned on and the XLR inputs from the microphones are turned on. Everything else is turned off and this includes the audio coming from the various cameras which would interfere with the audio from the microphones and cause echoes and distortions.

Upstream Key Tab:

This setting is what allows the mixture of computer graphics like PowerPoint with the camera views from the camera inputs into the final video that shows you inside your PowerPoint slide. Notice that we are using the "LUMA" tab and that both the Fill and Key Sources are set to "ComputerPPT" (the Lightboard Feed Computer that sends in the computer graphics). The "Clip" and the "Gain" allow you to adjust the density of the mixture between the camera views and the computer graphics. A Clip of about 10% and a Gain of about 50% should be used for general settings for most users. ***However if you want your graphics to be a little more transparent you can adjust these settings, just return them back when you are finished.***

Downstream Key Tab:

There are two Downstream Keys and they can add a couple things to your presentation like including a "laser pointer cursor" or adding a permanent graphic like a watermark, logo or instructors name to the video. To enable a "laser pointer cursor" to appear through the computer graphics see #4 of Video Switcher Settings at the end of this guide. To include a graphic, logo, name or some other file you need to load that file in the media player as seen on page 20 of this guide. Next, on the main switcher screen under the DSK 1 or DSK 2 section, turn on the "ON AIR" button (red) and turn on the "TIE" button (yellow). This will play the graphic in the media player on screen but it will be tied to whatever program camera input you have selected when you pressed the tie button and it will turn off otherwise.

Mediasite Desktop Recorder 2

This section of the guide is for users who are not familiar with the Mediasite Desktop Recorder 2 software package. This section will explain how to use it for recording a screencast…..in other words for recording everything that you do on the computer in a video. *If used in combination with the Lightboard system you can record TWO simultaneous videos that are synced in time…..one video of the computer screen and one video of the Lightboard.* When students view the resulting recordings on the UF Mediasite system they can see both videos at the same time and switch back and forth between the two videos to set which one is playing in a larger screen window. Since the Mediasite software is installed on the Lightboard's "Mediasite Computer" and that has a Smart Podium Monitor attached, *it means you can also use the monitors attached "electronic pen" to write on the screen of the monitor to annotate whatever you are showing on the computer screen.*

Using Mediasite Desktop Recorder 2 with the Lightboard:

Turn on the Mediasite Computer and the Smart Podium Monitor attached to the side of the Lightboard on the adjustable shelf. Once logged into the computer run the Mediasite Desktop Recorder 2 software and you should see the screen shown in the picture below.
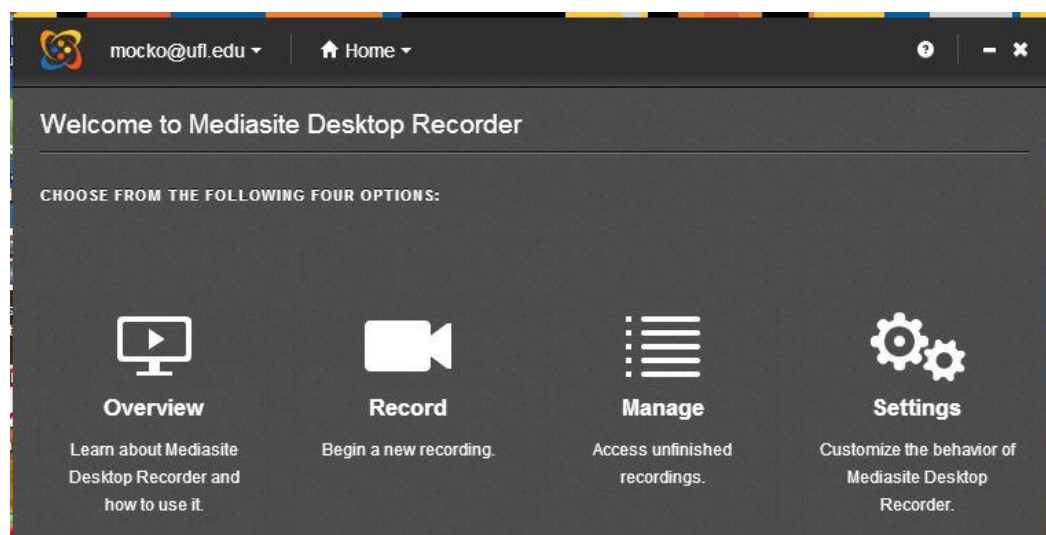
If you have never used Mediasite Desktop Recorder 2 on this computer before you will need to associate it to your UF Mediasite account (if you have used it before on this computer skip ahead to "Selecting Your Mediasite Account"). To associate it to your account run Firefox and login to your UF Mediasite account and you will see a screen like this picture below.
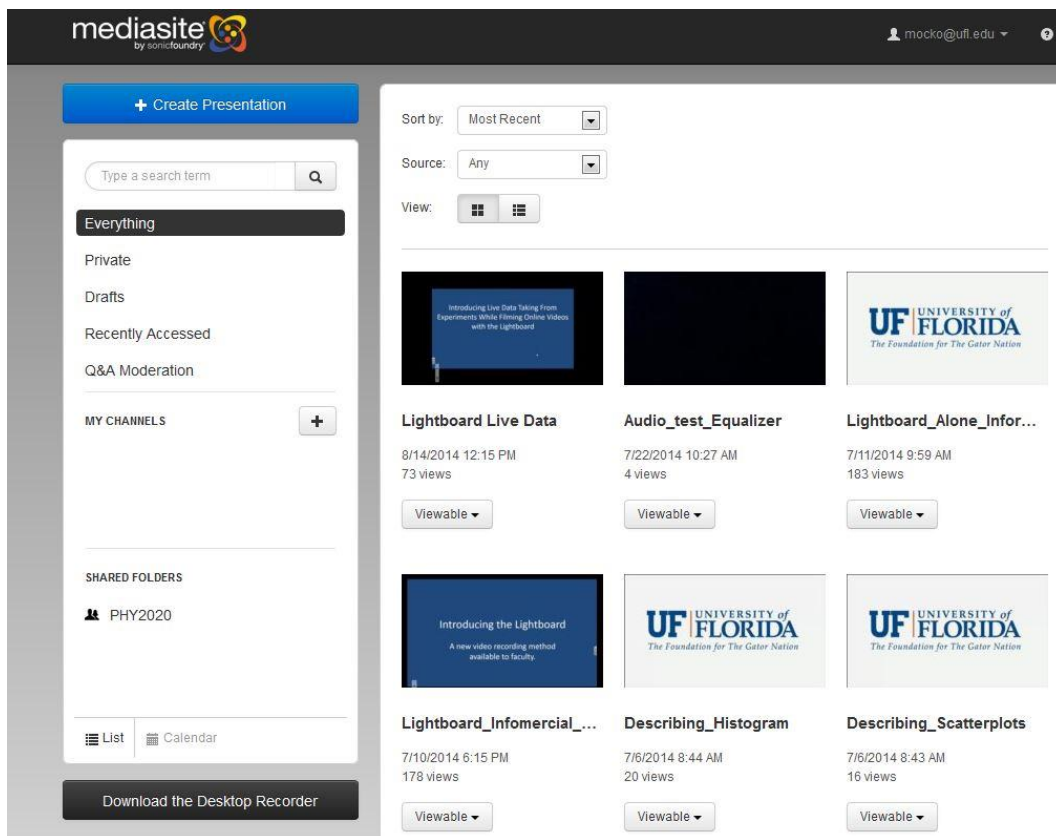
In the bottom left corner click on the button to "Download the Desktop Recorder".....we are not going to actually download the program but the button you need to associate the installed program with your account is on the download page. Once you click on the download button you will see the following page.

On the right hand side of this page is the "Register Mediasite Desktop Recorder" button…..click on it and it will associate the program with your account so that any recordings you make will be automatically uploaded into your UF Mediasite account.

Selecting Your Mediasite Account:

If your UF Mediasite account is properly associated with the Mediasite Desktop Recorder program you will find it in a drop down menu of various associated user accounts in the upper left corner of the program. Be sure to _**ALWAYS REMEMBER TO SELECT YOUR ACCOUNT**_ in the Desktop recorder because if you don't then your recording will be uploaded to someone else's account and it will confuse and pollute their account and you may very likely lose your recording. If you do make a mistake you can try contacting UF Video Services to see if they can move the file out of the other persons account and into your account. The picture below shows the front screen of Desktop Recorder and in the upper left corner you can see it is associated with the account "mocko@ufl.edu".
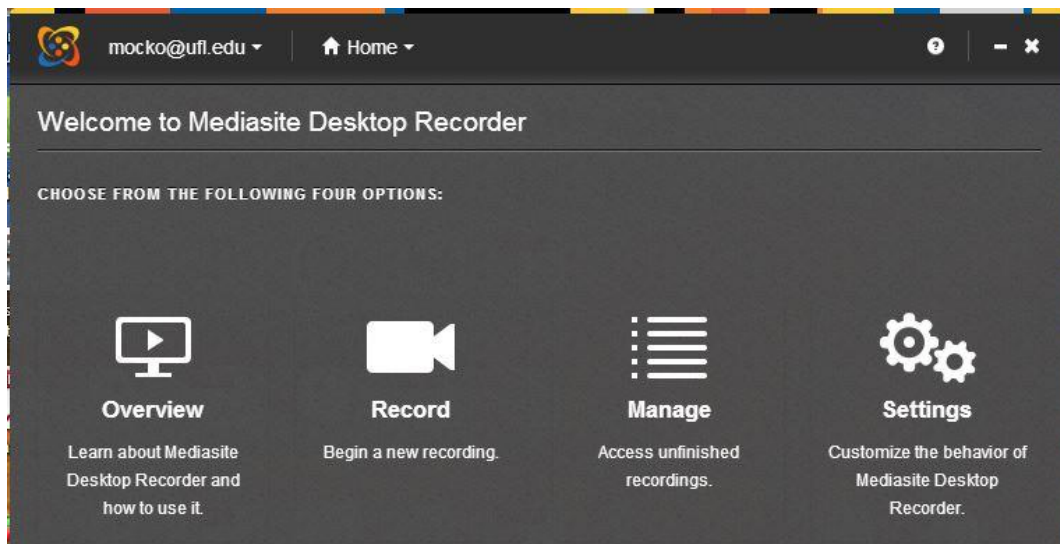
Once you have selected your account from the drop down list of accounts, press the "Record" button and you will get the following screen.
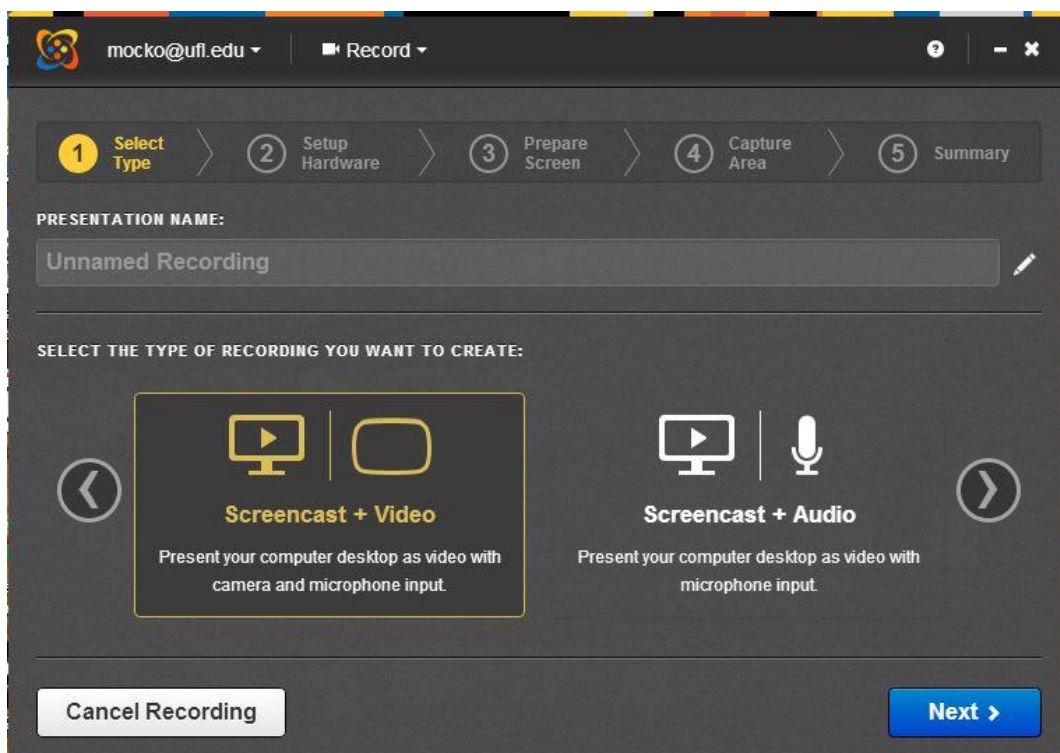

On this screen select "Screencast + Video" and click "Next".

You should now see the following screen which shows you a preview of the camera view and the settings for the camera size, input and microphone (DON'T change any of these settings). You will also see the "Presentation Name" text box where you can type in the name of your recording you are making. Next to the camera image is a multicolored sound bar and you should turn on the microphone and make sure you see this sound bar changing and thus indicating you are getting sound. Once you have set your file name and checked the video and sound click "Next".
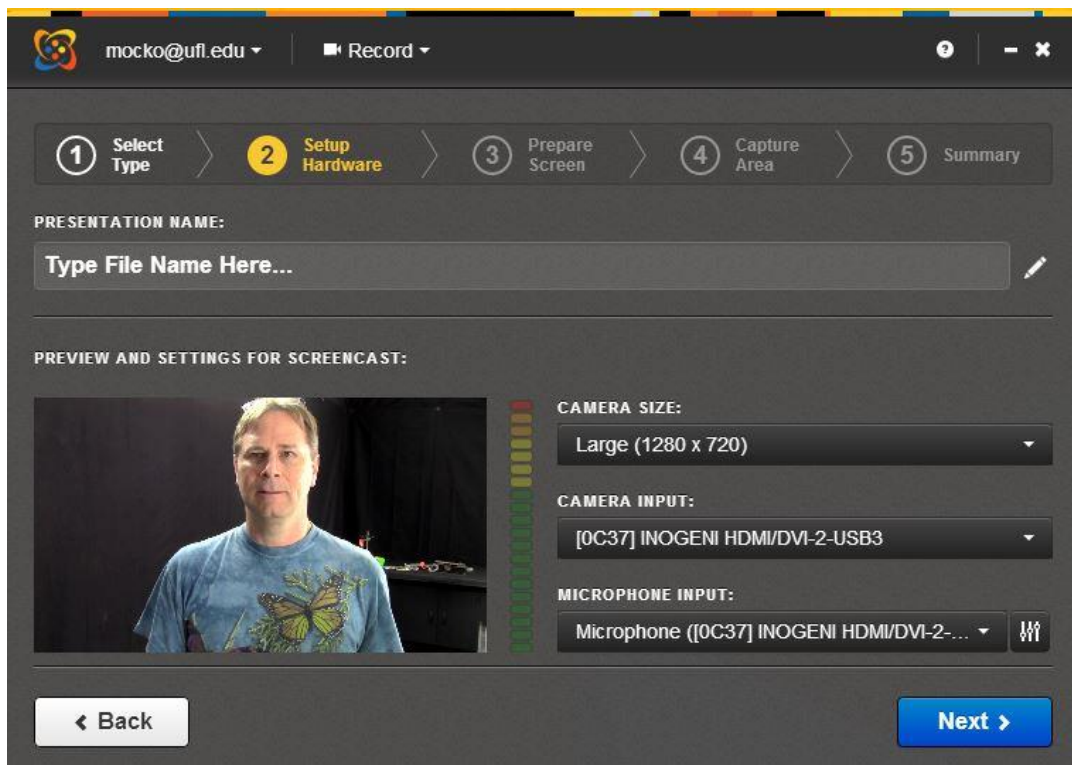

The next screen tells you to organize your computer screen for your recording and then to click "Next" again as see in the picture below.
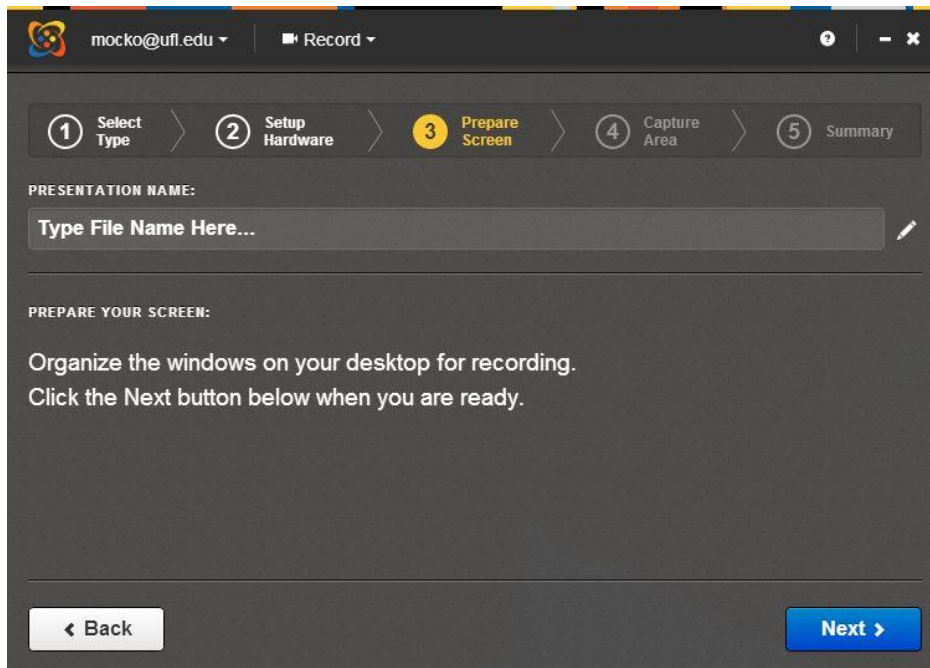
The next screen asks you to select the area of the desktop that you want to appear in your recording….it could be the entire desktop or it could be a customized area of the desktop. If you customize an area the screen space will look something like this picture.
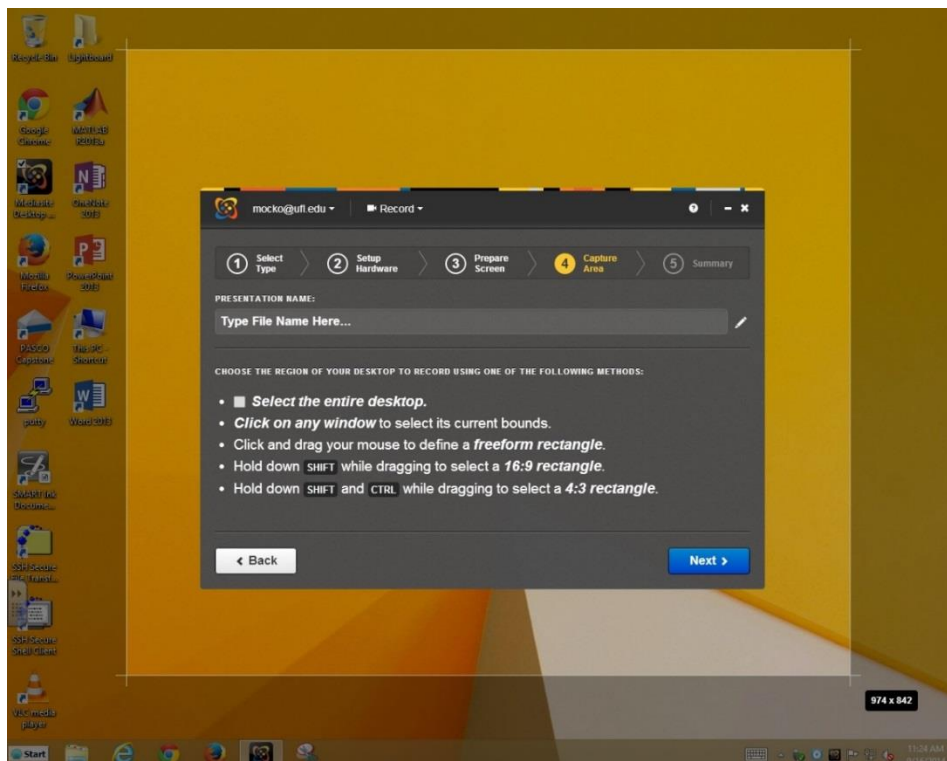
Click "Next" again once you have selected the screen space you want
recorded and it will bring you to the final window where you start your
recording. Since in this example we selected a custom area of the desktop
to be recorded, that area is marked off in the corners with red brackets.
When you are ready for your recording to start press the "Record" button
and the program will give you a 5 second countdown before it starts
recording. Once it is recording it will shrink down and appear as a small
"Red Pause" button icon in the bottom right tray of the computer near the
clock. When you are finished with your recording press the red "Pause"
button to stop your recording and it will ask whether you want to save the
recording or discard it.
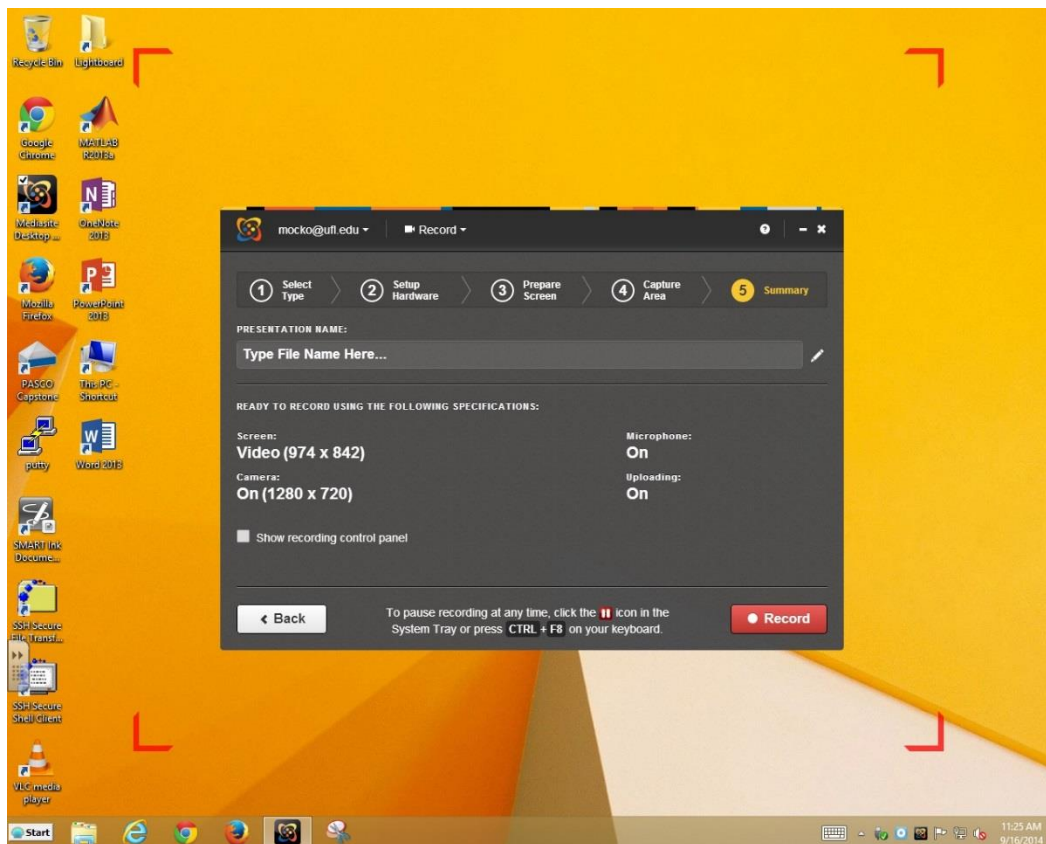
Tips and Tricks:

1) To more easily write in a specific place on a slide without having to play the "weatherman hand wave" put up your slide on the large TV before you start recording and use a marker (preferably a black dry erase marker) to put a small mark on the glass where you want to write during your recording. You can also place small marks outside of the recording area box to indicate to yourself where things are located in your slide. These marks are designed to be small or off screen so they are not noticed in the actual recording but are visible to you as the instructor.

2) Use the "Notes" feature of PowerPoint's Presenter view and write teleprompting notes to yourself. To display the notes larger, slide the dividing lines between current and next slide and increase the font size of your notes. If you need to see more notes or some other program you can start PowerPoint in presentation mode, then place your other program over the "Presenters View". Finally, click on the PowerPoint slide on the extended monitor to make it the active program so the slide clicker works.

3) Invert the display colors of any program. Let's say you have a program or website with a default white background that won't work well with merging into the Lightboard. If you invert the display colors you will make the background black and it will work better with the Lightboard. To do this, start the "Magnifier" program located in the Windows 7 taskbar. Next, click on the "Options" gear shaped icon in the program and click the box to "Turn On Color Inversion". When finished please turn color inversion back off and close the program.

4) While using demonstration equipment, it is possible to "replace" the real equipment with a PowerPoint slide of the equipment to make it easier to write on the board without tripping over the actual equipment. To do this start your lesson recording and demonstrate the actual equipment and then step off screen to create an editing point… but keep recording a while longer before stopping. Now from the end of that recording of your equipment use Adobe Premiere to take a frame snapshot (picture) showing just the equipment in place. That picture of

the equipment can then be used as a PowerPoint slide. Now remove the actual equipment and "replace" it with the slide containing the picture of the equipment. Next, start a new recording and walk back into camera view and continue your lesson. You will appear to be standing next to the equipment even though it is no longer actually there. In final editing you combine the two sections of your lesson recording and it appears you just walk off screen and walk back on screen with the equipment still "there". For this to work it is important to keep the equipment and the image aligned, that is why it's best to take a screen snapshot of the equipment **after** you have demonstrated it rather than before.

5) The "replace equipment" technique described above can also be used to overlay an image of equipment on top of the actual equipment in order to show different states. For example, a real spring in its equilibrium position can have an overlay image of the same spring in its expanded or compressed position so a student sees how both positions compare.

6) Make a recording use Mediasite Desktop Recorder 2 so you have two synced video streams recorded. Now interact with applets or make diagram drawings on the screen using the attached electronic pen. Switch from the headshot camera to the lightboard to work out the algebra for the problem while your diagram or applet is being recorded simultaneously from the computer.

Video Switcher Settings to Mix Graphics in Four Methods Described in Detail:

1. **Graphics Over Instructor:** This is the standard setting and it makes the computer graphics like PowerPoint images appear as solid objects with the instructor appearing "behind" the graphics.
    A. Set the "Program" camera input to "Glas".
    B. Enter the "Upstream Key 1" settings and select the "Luma" tab. Now set both the "Fill Source" and the "Key Source" to "ComputerPPT". Be sure that the "Pre Multi" button is NOT selected and that the "Clip" setting is

about 5-10% and the "Gain" setting is about 50%. If you set the Clip level too high, dim parts of your graphics will be replaced with the lightboard camera view.

C. Be sure to turn on the "ON AIR" button and the "BKGD" and "Key 1" buttons under Next Transition. A picture of the settings should look like the image below.
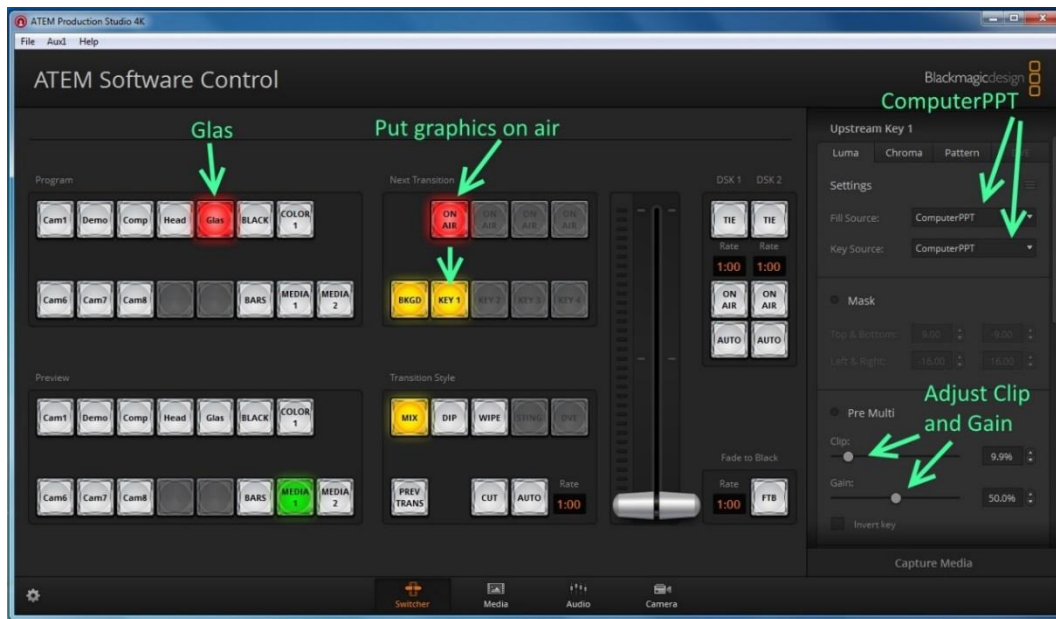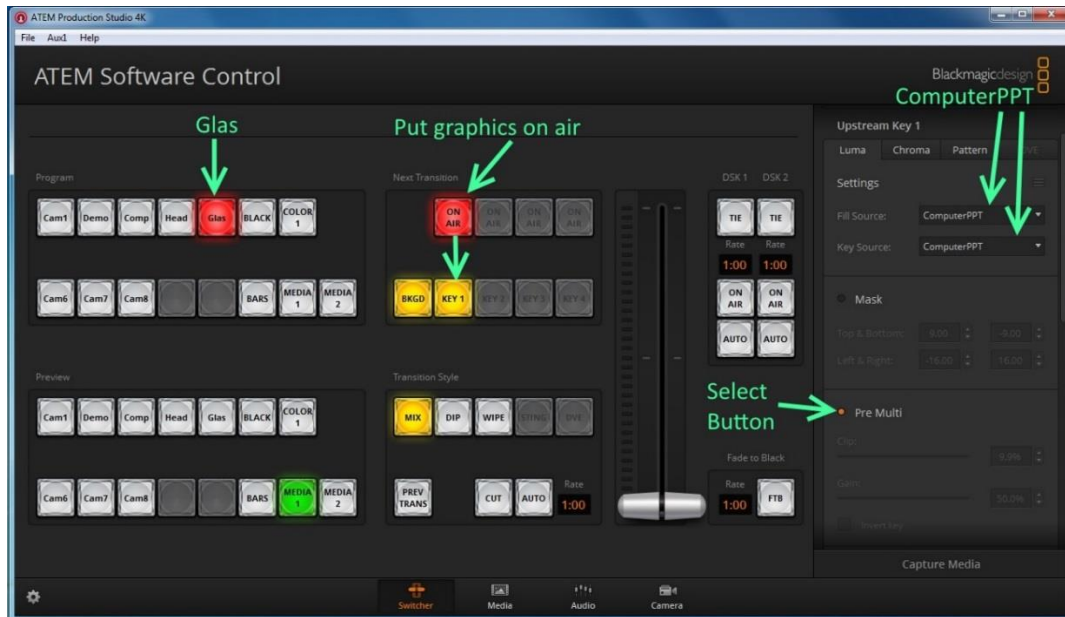

2. **Instructor Over Graphics:** In this setting mode the instructor will appear in front of the computer graphics (think of you standing in front of a scene appearing to be on location somewhere).

A. Set the "Program" camera input to "Comp".

B. Enter the "Upstream Key 1" settings and select the "Luma" tab. Now set both the "Fill Source" and the "Key Source" to "Lightboard". Be sure that the "Pre Multi" button is NOT selected and that the "Clip" setting is about 5-10% and the "Gain" setting is about 50%. If you set the clip level too high the edges of the instructor will be replaced with graphics.

C. Wear bright colors, dark colors will blend you in with your graphic.

D. Be sure to turn on the "ON AIR" button and the "BKGD" and "Key 1" buttons under Next Transition. A picture of the settings should look like the image below.
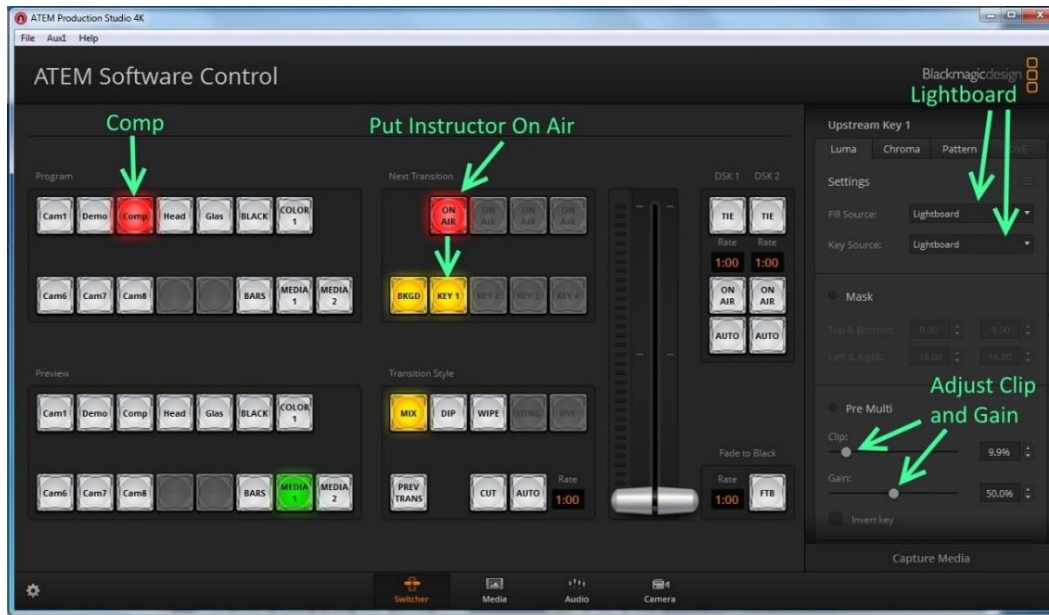
3. **Instructor Can Be Seen Through the Graphics in a "Ghostly Mixture":** In this setting mode the graphics will not be solid objects and the instructor can be seen moving through the graphics.

   A. Set the "Program" camera input to "Glas".

   B. Enter the "Upstream Key 1" settings and select the "Luma" tab. Now set both the "Fill Source" and the "Key Source" to "ComputerPPT". Be sure to turn ON (select) the "Pre Multi" button. Once the Pre Multi button is turned on the clip and gain settings will be deactivated. This makes both the instructor and the graphics semi-transparent since the final video is an equal sum of both. If desired you can turn off the Pre Multi button and manually adjust the clip and gain to get the mixture you desire.

C. Be sure to turn on the "ON AIR" button and the "BKGD" and "Key 1" buttons under Next Transition. A picture of the settings should look like the image below.


4. **View a "Cursor Pointer" Through Graphic Like a Laser Pointer:** This setting mode allows the instructor to appear behind the solid graphics as in normal mode but to also be able to use a small bright light like a flashlight as a "cursor" or laser pointer that can be visible through the solid computer graphics.

A. Set the "Program" camera input to "Glas".

B. Enter the "Upstream Key 1" settings and select the "Luma" tab. Now set both the "Fill Source" and the "Key Source" to "ComputerPPT". Be sure that the "Pre Multi" button is NOT selected and that the "Clip" setting is about 5-10% and the "Gain" setting is about 50%. If you set the Clip level too high, dim parts of your graphics will be replaced with the lightboard camera view.

C. Be sure to turn on the "ON AIR" button and the "BKGD" and "Key 1" buttons under Next Transition.

D. Enter the "Downstream Keys" settings and under "Key 1" set the "Fill Source" to "COLOR 2" and "Key Source"

to "Lightboard". Be sure that the "Pre Multi" button is NOT selected and that the "Clip" setting is set to a high value like 90% so that only very bright spots will be replaced with whatever color you are using as the cursor. To set the color you are using as a cursor enter the "Color Generator" tab and select "Color 2" and then select a color that contrasts with your graphic. Now, wherever you place your small bright flashlight in the lightboard it will be replaced with a colored dot of the color you selected. You could also replace the bright spot from the flashlight with something loaded into the Media Players as well if desired rather than just using a color. For example, you could load the image of an arrow into Media Player 2 and select Media Player 2 instead of Color 2 as a fill source on the downstream key.

E. The settings should look like the two images below.
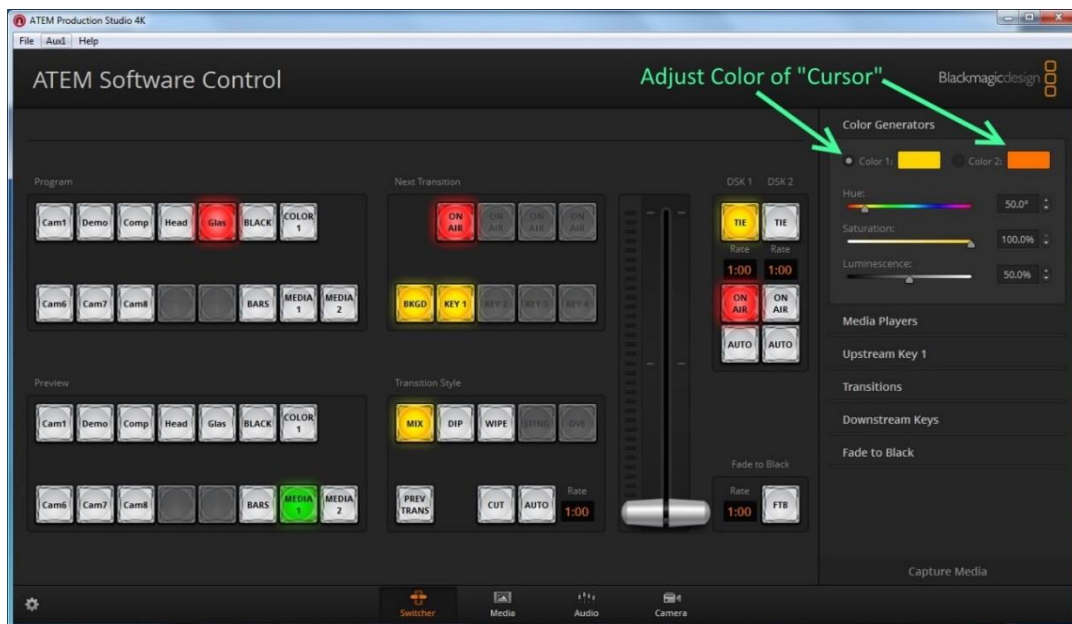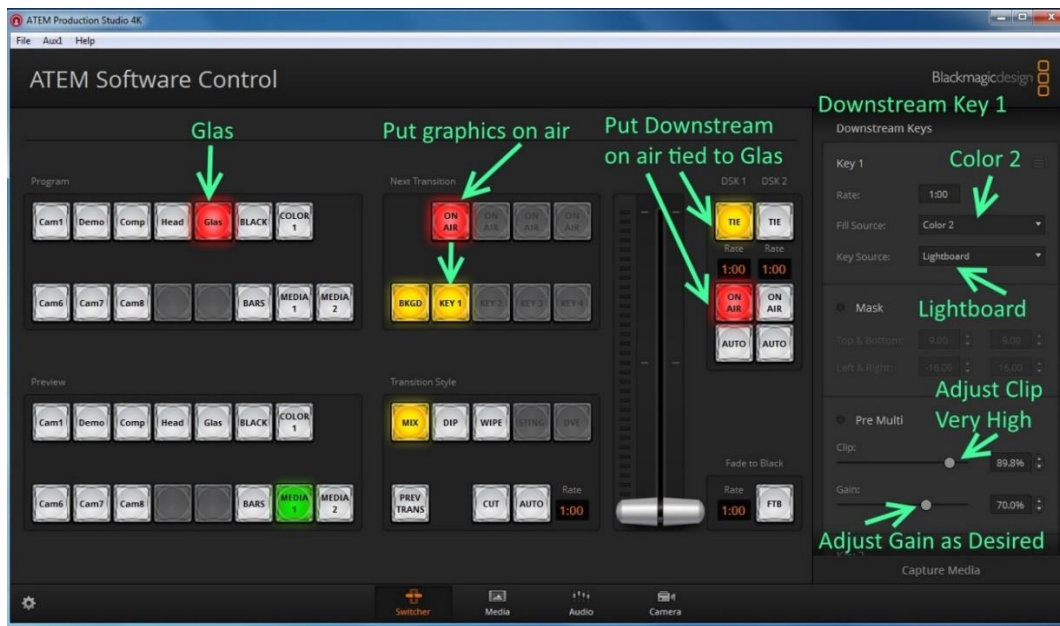
That's about it! Good Luck!

John Mocko

Department of Physics, University of Florida.