SATEC TECHNOLOGY TIPS
Working with Video

Helpful Hints for Shooting Video

1. High shutter speed

2. Keep the action in the same plane

3. Scale (include an object of known height)

4. Short time length

Importing Video

DVD, Video CD, Video Editor, TV, CD AUDIO

1. In order to import video into the computer, the TV button must be turned on. To do so, click on the TV icon on the ATI menu bar.

2. In order for the TV to show an image, the source must be selected. That is, the TV needs to know where the video is coming from. There are 3 options:

   a. The **S-Video** is the single cord that has a "bigger" connector with several little prongs in the end. This is supposed to bring cleaner video at a better quality. For our purpose, either one will be just as good.

   b. (b) The **Composite** is the cable that has two/three connectors: audio(1 or 2) and video. Unless you are interested in having the audio in the video also, you may want to connect only the video connector into the purple cord that is connected to your computer.
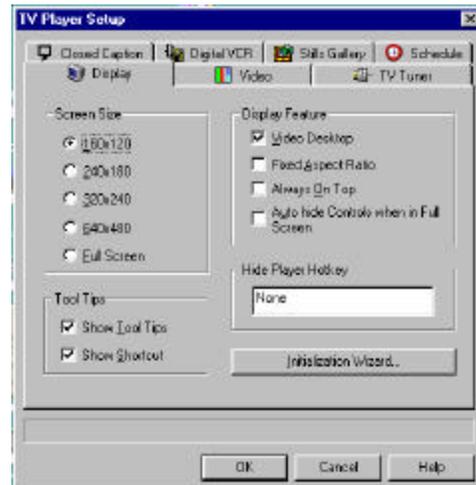
c. (c) The **Cable** option most likely will not be used, unless you have cable connection in your classroom and are able to connect it to the computer.

d. You need to select the appropriate source. In our case, we can import video from the camcorder using either the S-video **or** the composite. The option that is currently selected will be shown automatically by the yellow triangle at the bottom. That means that our current video input is S-Video. Should you want to change the input, click on the button at the upper right hand corner of the menu bar (first button from right to left).. Every time you click on the button it will change to the next option (S-video, composite, cable).

3. You can select the size of the "screen" by clicking on the folder on the lower right hand corner. This will also allow you to change several options for the TV. To change the size of the screen, select the appropriate size and then click OK. This will automatically change the size of the "monitor" on your screen. Here you can also select the video source if you want to by clicking on the Video Tab at the top, and selecting the appropriate video source.

4. To start recording from your camcorder, click on the camcorder button from the tv menu bar (second button from left to right). This will start capturing the video from your camera into the computer. The computer will then indicate how long the recording is and how much "space" from your hard drive will use. To stop the recording the click the same button. At that point it will stop recording video

from the camera and will save the video record into the computer as a video file, which can now be opened in your computer.
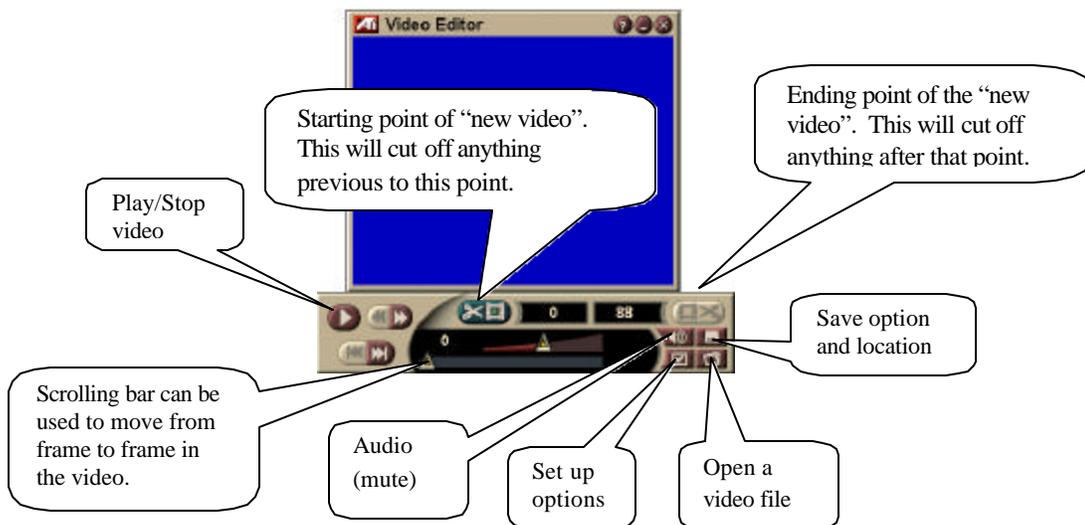
5. At this point the computer will ask you to **enter a name** for the file **and also a location** where you want to save your file, and well as the type of format for the video, in this case AVI. Name your file something meaningful to you. This will make it easy for you to identify your files, specially if you have several video files or if you have multiple takes name them as "video1, video2", etc…

You have now successfully imported a video file into your computer. You may now want to edit the video your computer recorded using another feature called the Video Editor.

Editing the Video File Using the Video Editor

1. Click on the icon with a pair of scissors on the ATI menu bar. This will launch the video editor program, which will allow you to cut out parts of the video that you do not want to save as part of the video file, such as a bad beginning point, or end.
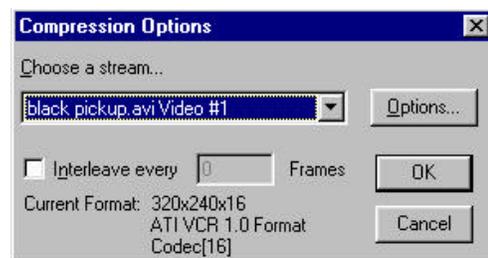
2. Open the file you want to edit by clicking the open icon on the editor menu bar.

3. Click on the scissors icon (green) to indicate that you want to change the location of the starting point of your "new video". You can now scroll up to the point where you want to end your video using the scrolling triangle. The number to the left indicates the frame number of the original video. When you stop at a frame the scissors with red background light up.

4. Once you have selected the ending frame of the "new video", click on the red scissors icon to indicate to the video editor that you want the new video to stop at that point. You have now selected the starting point and ending point of your new video. You can play the "new video" by clicking the Play button on the menu bar. Notice how this will only play the video you selected rather than the original.
   If you are not happy with the "new video" you edited, you can select a different starting point and ending point for the "new video" by repeating steps 2 and 3. Once you are satisfied with what you have, you are ready to save it.

5. Click on the Save icon on the menu bar. Notice that this will only save your "new video," giving you the option for "Save as...," and will ask you for a file name and location. You may want to name this something similar to the original video or number it "newvideo1", etc...
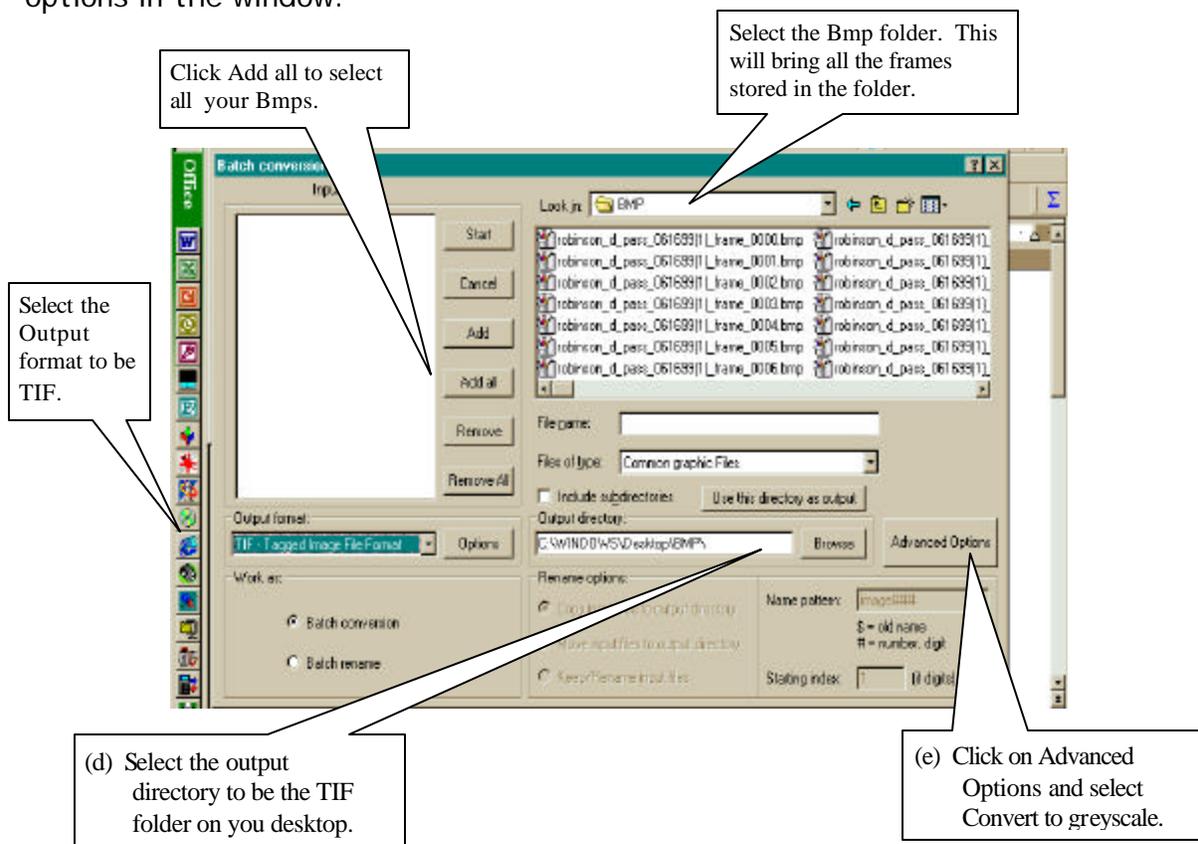
6. Once you select the name and location click OK. This will pop out a window that will ask you if you want to change some of the options. Click OK.
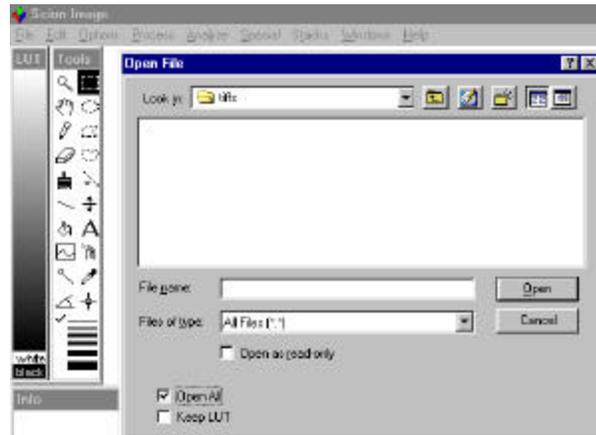
You should now have a digitized video clip that you can open and use in other programs such as IrfanView, Scion Image or Power Point.

Converting a Video File into a Tiff Stack File

1. Make two new folders on your desktop (name them BMP and TIF)

2. Launch IrfanView

3. Under the Options menu, select Start Multimedia Player.

4. In the multimedia player window, click on the [icon] icon (top icon on the left), browse for the movie file you want to convert and open it. The movie will play.

5. Click on the [icon] icon (5th icon from the top on the left). Select the BMP folder you created earlier. The icon folder will change to look open. Click OK. The program will place the frames into your BMP folder and bring up an information window. Click OK again.

6. Close the multimedia player.

7. Click on **File** and select **Batch Conversion.** Be sure to change the following options in the window:

Select the Bmp folder. This will bring all the frames stored in the folder.

Click Add all to select all your Bmps.

Select the Output format to be TIF.

(d) Select the output directory to be the TIF folder on you desktop.

(e) Click on Advanced Options and select Convert to greyscale.

8. Click **Start.**   You should see a dialogue box showing your files being converted. When it's finished, click on the Exit button.

9. Close IrfanView.

10. Open Scion Image.

11. Select **Open** in the **File** menu. Click on one file. Select **Open All** (*at the bottom of the window*). Click **Open.** All your frames will open as individual windows.

12. Create a stack of all the individual windows by selecting **Windows to Stack** under the S_tacks menu.

13. Save the stack file. Make sure you select the saving option at the bottom of the screen to be a .TIF extension.

You should now be able to open this new file in Scion Image as a tiff stack that can be analyzed. This stack has a speed of 30 frames per second. If you would like to shorten the stack to a smaller number of frames, using different macros available in Scion Image, you can do this. A Macro that changes the number of frames from 30 frames per second (fps) to 10 fps is in the SATEC CD ("Convert to Greyscale").

To Reduce the Length of a Stack to 10 fps

1. Open the file that you want to change to 10 fps in Scion Image.

2. Under **Special** select **Load macros**.

3. Find the macro named "**Convert to Greyscale"** in the CD (in the folder called "Technology Tips" and click **Open**.

4. Click on **Special** and select **30 fps to 10 fps**.

5. Save the new file. If you want to have both files (the original 30 fps and the new 10 fps), *be sure to save under a different file name.*