

TUTORIALS 5B

Quintic[®]

1 for Sports Analysis

Tutorial 5b – Video Capture

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Ever wondered how you compare with leading sportsmen and women? Now you can analyse your own or a friend's sporting technique using the **'Capture'** function on the Quintic software. Once you have filmed an activity using a digital video camera, follow these instructions to capture the images onto your computer and you'll then be able to perform the same analysis as you have done on the international sports performers.

Work through this tutorial and follow the instructions as you go. There is no question sheet for tutorial 5. For this tutorial, you will need:

- A digital video camera
- A digital video cassette
- A Firewire lead
- A Computer with Quintic software installed on it.

1: Recording

Ask a friend to perform a sports skill 6 times for you to record onto the digital video cassette.

The skill must be discreet (a skill which has a definite start and end point often referred to as a closed skill), you should leave the video camera recording in between the performances.

This will mean you'll end up with a video recording of: skill, 20 seconds gap, skill, 20 seconds gap, skill, etc...

2: Set-up

In order to record the images onto your computer, you need to connect the video camera to the computer using your firewire lead.



Digital video camera with firewire connected (4-pin firewire).



Firewire connection into the Laptop (4-pin firewire).



Firewire
(4-pin to 4-pin) Laptop to camera.
(4-pin to 6-pin) Desktop to camera.



Firewire connection into the computer
(6-pin)



PCMCIA Firewire Card, allows two cameras to be connected to a laptop.

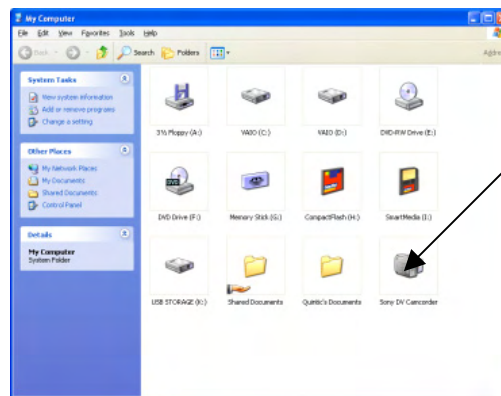
Switch the video camera **ON** and to the **VCR, VTR, or Tape** mode (the one that you normally use to playback what you have recorded).

Before opening the camera window confirm that computer has recognised both camera signals, see below

A camera icon should appear on the windows taskbar when the camera is initially attached and turned on.

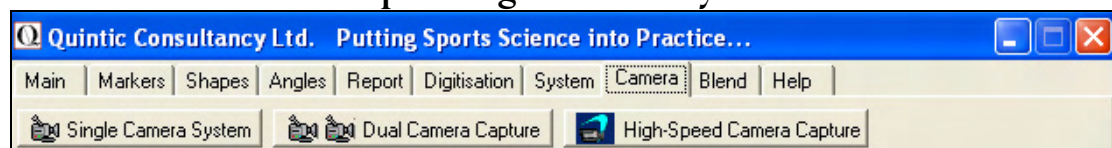


Clicking on my computer can also check the camera status. If a signal is being received from the camera, a camera icon will appear on the My Computer screen.



3: Open the Camera System

Open **Quintic** with the desktop shortcut. Click on the **‘Camera’** tab in the **Main** window and then **‘Open Single Camera System’**.

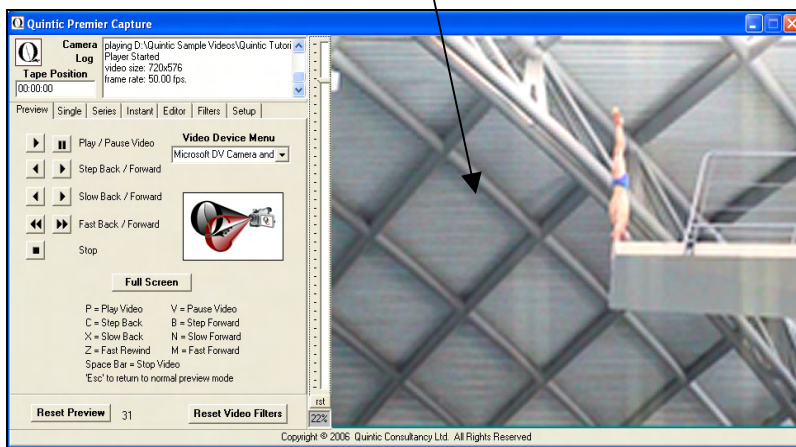
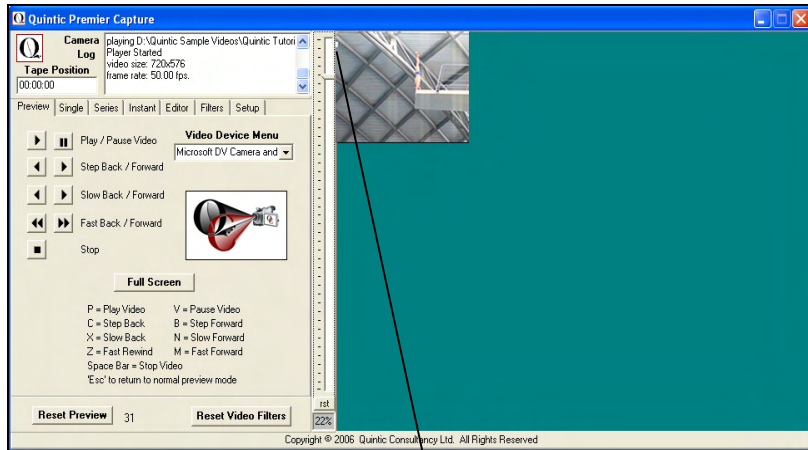


(Coaching & Biomechanics Screenshot)

4: Preview Mode

The preview mode allows you to view the image displayed on the video camera and control the video camera using the computer mouse. If your video camera is connected properly it will show the image from the camera on screen like the one in our example:

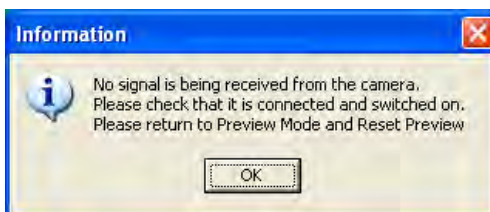
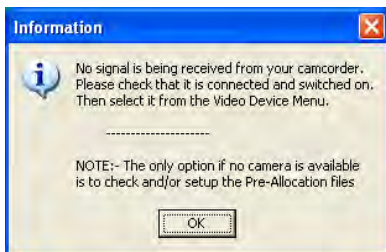
The scroll bar in the middle of the preview window allows the user to alter the size of the video preview. The preview window will return to the default size during the capture process.



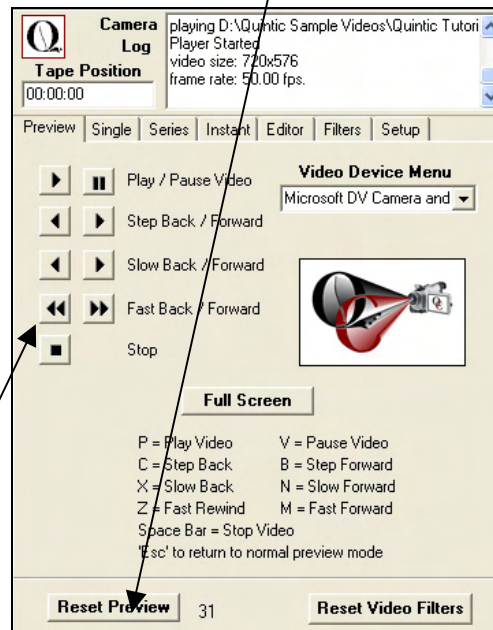
Problems?

If either of following messages appear at any stage check:

- That your tape is in the camera.
- That your firewire is connected to your camera and computer.
- That your camera is turned on.
- That your camcorder is on the correct setting for playback.



If the image window displays a blank screen you may need to press the ‘**Reset Preview**’ button that is in the bottom left hand corner:

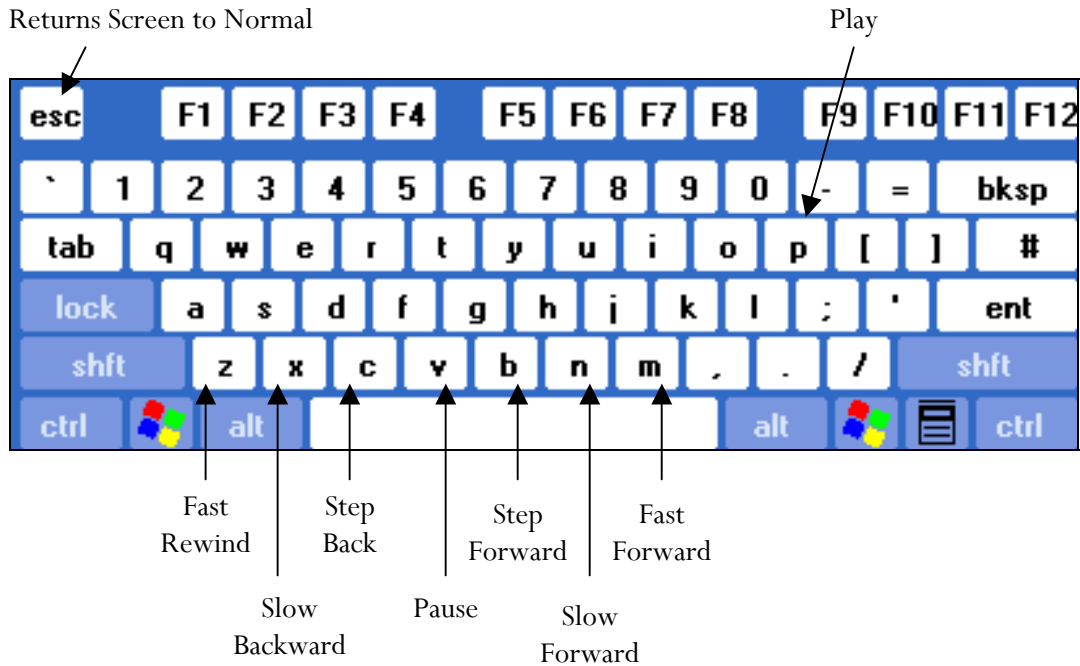


Control the video using the buttons on the left hand side of the preview window. Experiment with all these buttons by navigating your way around the footage you recorded of the 6 skill performances as follows:

- (i) Rewind to the start of the tape.
- (ii) Play ‘slow forward’ through the first recording of the skill.
- (iii) Fast forward to the start of the sixth recording of the skill.
- (iv) Pause at the beginning of this clip.
- (v) Use the ‘**step back**’ and ‘**step forward**’ buttons to find a key point in the action (eg. Ball impact, water entry, catch point, etc...)

You can also preview the video in the ‘**FULL SCREEN**’ mode by using the following keys to control the video.

- P = Play
- V = Pause
- B = Step Forward
- C = Step Backward
- N = Slow Forward
- X = Slow Rewind
- M = Fast Forward
- Z = Fast Rewind
- ESC = Returns Screen to Normal



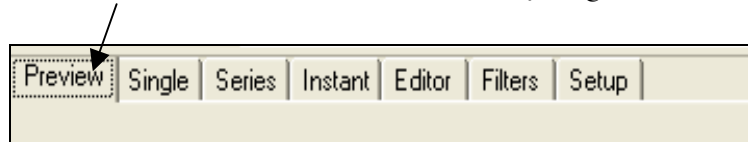
Press the **'Full Screen'** button and check that you can navigate your way around the footage you recorded of the 6 performances as follows:

- (i) Rewind to the start of the tape.
- (ii) Play **'slow forward'** through the first recording of the skill.
- (iii) Fast forward to the start of the sixth recording of the skill.
- (iv) Pause at the beginning of this clip.
- (v) Use the **'step back'** and **'step forward'** buttons to find a key point in the action (eg. Ball impact, water entry, catch point, etc...)

Now, rewind the video to the start of your first skill performance. Ensure that you do not miss any of the action – you can always edit later so include as much as possible.

5: Capture

Click on the **'Capture'** tag on the Capture System window. You are about to create a video file now. If the tape is not in the correct position you will have to use the camera controls on the camera itself, unless you go back to the preview mode.

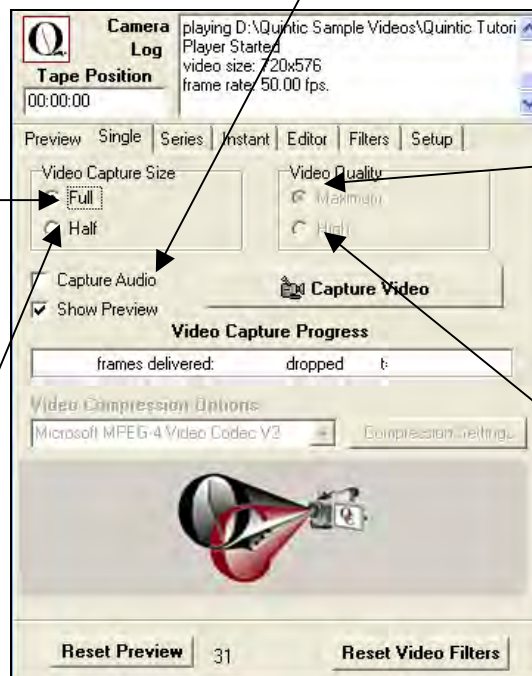


2. Quintic allows you to choose whether you want to capture 50/60 (Coaching, Biomechanics) or 25/30 (Sports) seconds (50/60Hz or 25/30Hz).

It is most likely that you want to capture in **'Full'** as it provides you with twice as much information about your sporting technique (50fps) (Biomechanics & Coaching only)

If you wish to capture in **'Half'** the video will be captured at 25fps.

1. It is best to deselect the **'Capture Audio'** option so that the sound is not recorded onto the computer. This greatly reduces the size of the video file so it takes up less space on your computer.



3. For best quality, ensure that the **'Video Quality'** selected is **'Maximum'**.

If you want to reduce the amount of computer memory taken up by your video file, select **'High'** as the **'Video Quality'**.

(Biomechanics Screenshot)

Choose the capture setting you wish to use:

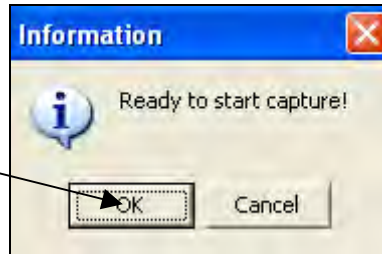
- Video Capture Size – FULL/HALF
- Video Quality – MAXIMUM/HIGH
- Capture Audio – ON/OFF
- Show Preview – ON/OFF
- Individual Capture/ Sequential Capture

Once you have selected the desired settings you are ready to capture the video! Now click **'Capture Video'**. This will reduce the size of the display image.

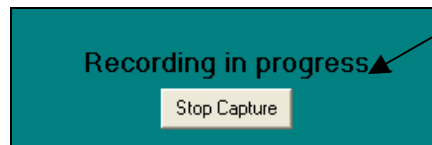


Once you have done this you will be prompted to **'Start the Capture'**. When you press the **'OK'** button the video file of the image you see in the preview is being captured. The computer is capturing everything you can now see in the capture window or on the screen of your video camera. Press **'Stop Capture'** when you have completed captured the first performance of the skill.

Using the **'OK'** button starts the capture process.

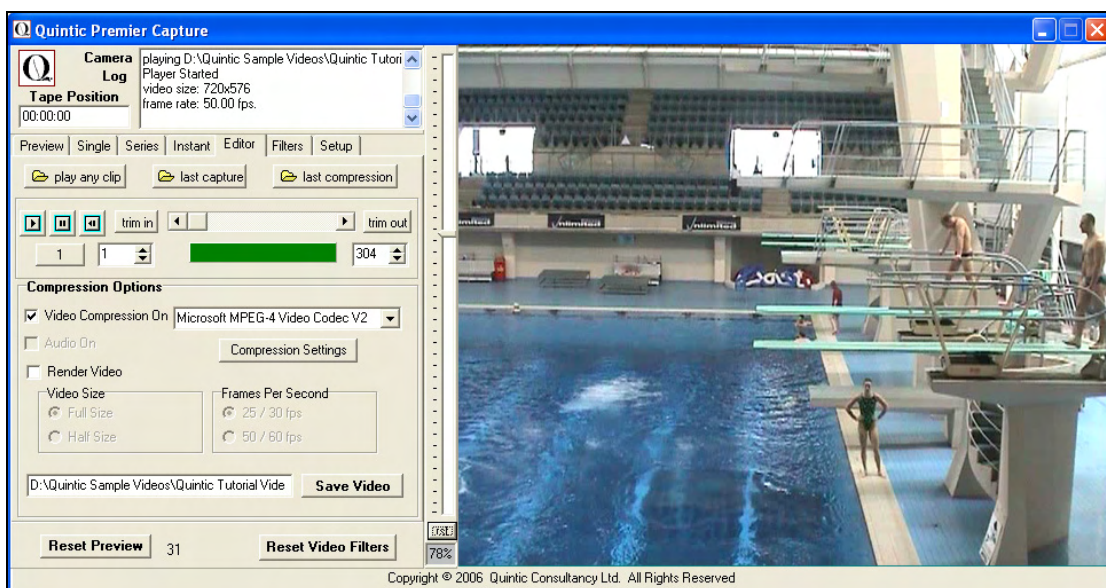


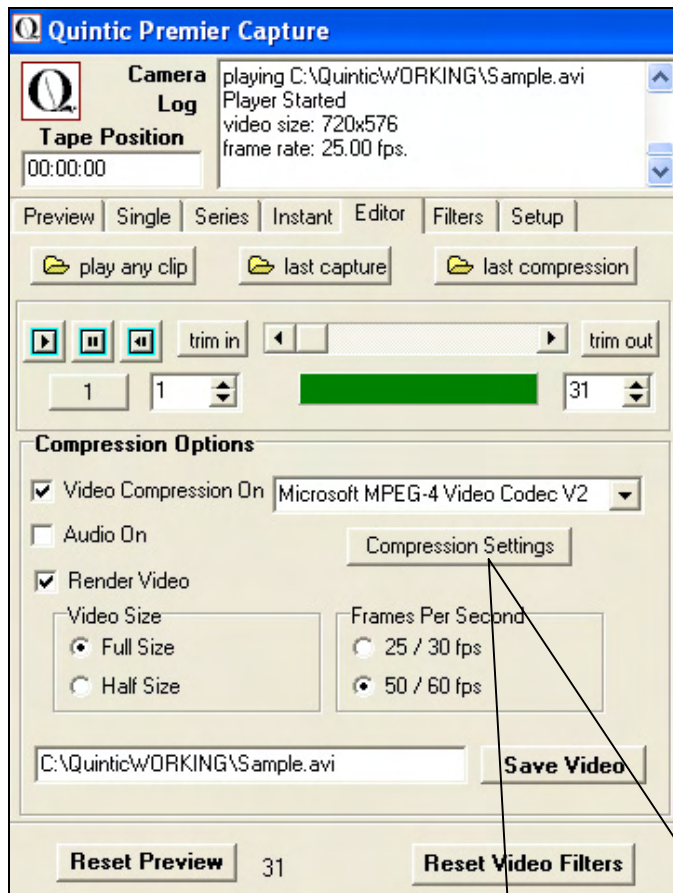
Using the **'Stop Capture'** button stops the capture process.



It is best to capture no more than 60 seconds at a time when using the video capture size FULL. If you are capturing at HALF size you can capture for as long as you like. (Football, Netball, Rugby games maximum of 50 minutes)

If the video was captured at full size a pop-up window will ask you if you want to play the captured recording. The program will automatically default to the **Player** window. Click **'Yes'** so you can watch it through.

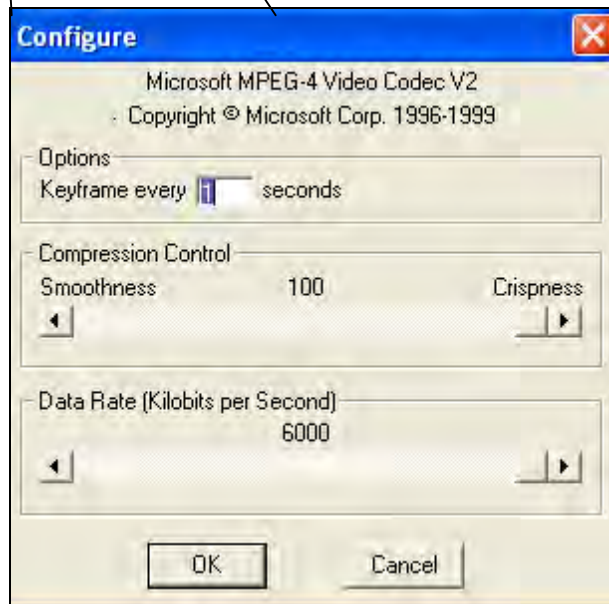




6: Video Capture Settings

It is recommended that you start with the default capture settings. When you get more experienced you may experiment with different settings. There is a trade off between video quality and video file size. Higher quality videos can be obtained but at the cost of having larger video file sizes. The default settings we feel are a good compromise between video quality and file size.

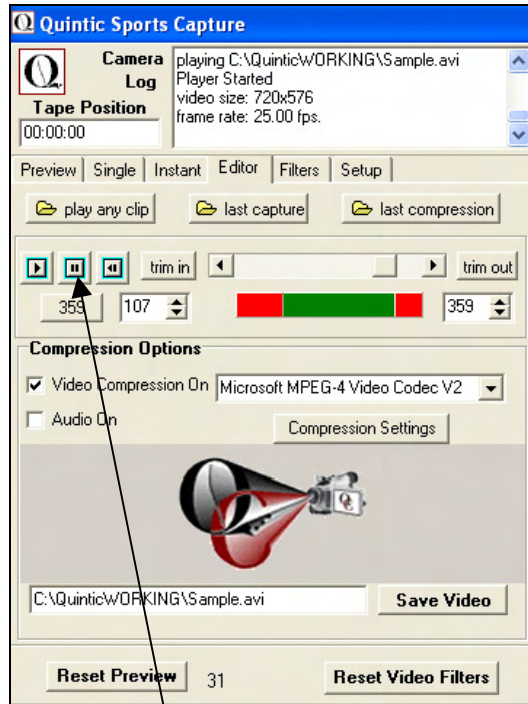
It is suggested that you use Microsoft MPEG-4mVideo Codec V2 to compress your footage. For **maximum** video quality using this codec you must click on **'Compression Settings'**, then change the Keyframe to every 1-second, the Compression Control to 100 Crispness and the Data Rate to 6000 Kilobits per Second as in the diagram below.



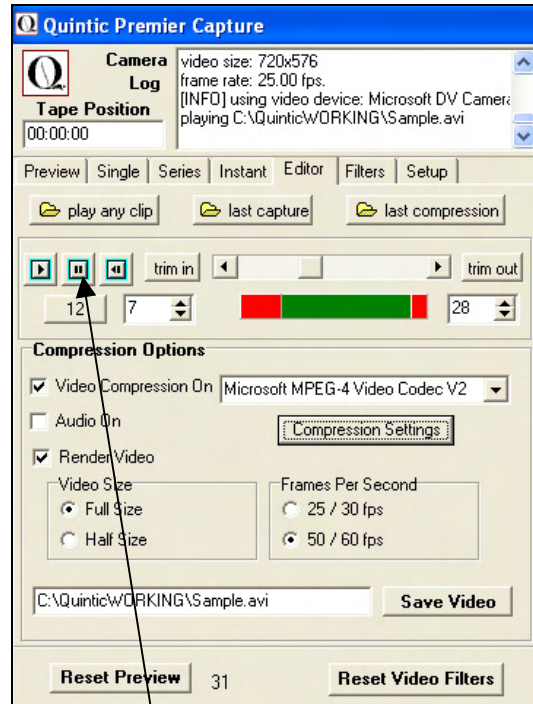
N.B. Once the compression settings have been set the software will remember the last values used during the video capture process.

7: Quintic Editor Mode

Once you have captured the required clip, you can **‘Trim in’** and **‘Trim out’** to make sure you only save the frames you really need. Please note that this function can only be used if you capture the video in **‘Full’** mode.



(Sports Screenshot)

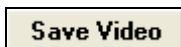


(Biomechanics Screenshot)

Use the buttons on the left to play the captured clip and pause it at the first frame that you want to include in the saved version – you can use the scroll bar to move frame-by-frame so it is exact (in the above example, it’s frame 28). Click on **‘Trim in’**. It will turn the portion of the scroll bar before frame 28 red. Now scroll to the last frame you want to include in the saved version (in the above example, it’s frame 145). Click on **‘Trim out’**. It will turn the portion of the scroll bar after frame 145 red.

‘Trim In’ and ‘Trim Out’ around the first performance of the skill.

Now when you click **‘Save Video’** at the bottom of the Capture window, only the green portion of the captured clip will be saved.



Now click **‘Save Video’**, create a folder with your name as the title and save this clip as **‘Skill 1’**.



Click on the **'Preview'** tab. Move the video to the start of the second performance of the skill.

Repeat the capture process to save the video file of the second skill performance. Call it **'Skill 2'**.

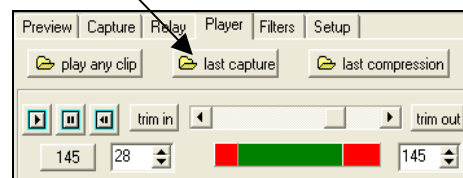
Capture the third and fourth performances of the skill. Each time, check that the settings are as specified. Once the settings have been specified they will become the default settings and will not change until physically changed again. It is best to check, as you cannot make adjustments once you have saved the video clips.

Often it is possible to record a 30 second clip, which may include 4 or 5 throws, swings, jumps etc... This will allow you to edit these clips separately.

Click on the **'Preview'** tab. Move the video to the start of the fifth performance of the skill. Click on the **'Capture tag'**. Click **'Start Capture'** but don't stop the capture until after the sixth performance of the skill.

'Trim In' and **'Trim Out'** around the fifth performance of the skill. Save this clip as **'Skill 5'**.

Now click the **'Last Capture'** button and **Trim In'** and **'Trim Out'** around the sixth performance of the skill. Save this as **'Skill 6'**



You can do this as many times as you like. This will save time but remember you cannot capture more than about 60 seconds at a time when using the **FULL** video size.

Dual Camera Capture

N.B: Quintic recommends that for optimum Dual Camera Capture results, two camera's of the same make and model are used.

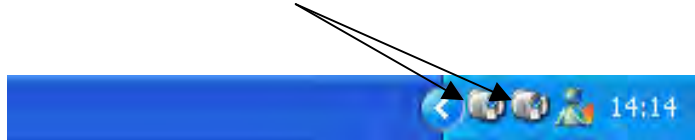
Setup

Connect both of the cameras via fire wire leads to your computer, if you are using a laptop you will need a PCMCIA Firewire Card (see section 2 Set up).

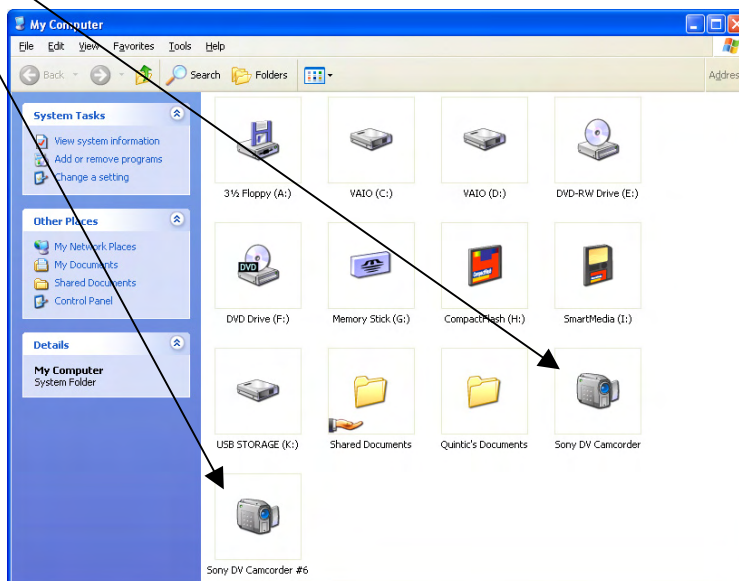
Take the tapes out of both cameras, and set them to camera mode

Before opening the camera window confirm that computer has recognised both camera signals, see below:

Two camera icons should appear on the windows taskbar when both cameras are initially attached and turned on.



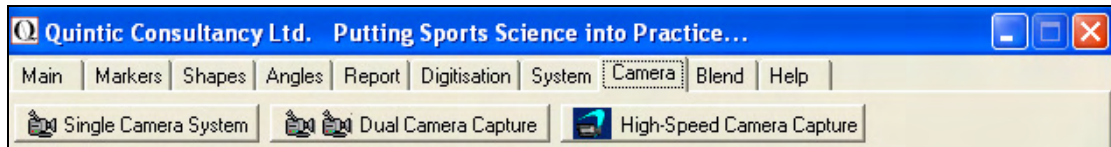
Clicking on my computer can also check the camera status. If signals are being received from both cameras 2 camera icons will appear on the My Computer screen.



If signals are not being received from both cameras check all of the connections and then both cameras off and then on.

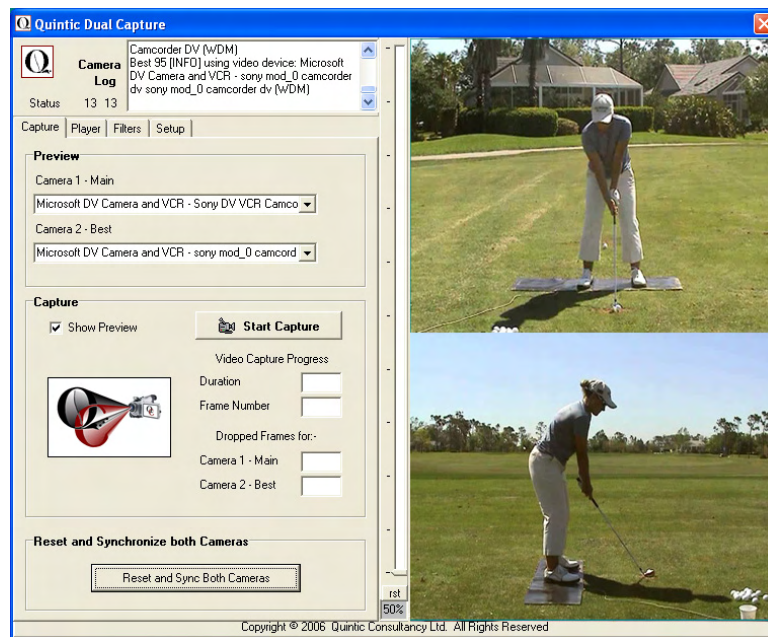
Capture

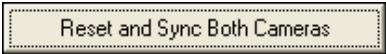
Once both cameras are connected and have been recognised by the computer Click on the ‘Camera’ in the **Main** window and then ‘Open Dual Capture’.



(Coaching and Biomechanics Screenshot)

The Dual capture screen can be seen below:



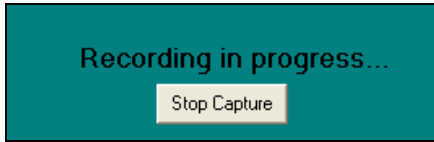
Once both preview screens have loaded click on the  Button. This button refreshes both of the previews and automatically synchronises both video feeds.

To begin capturing the footage click on 

Once you have done this you will be prompted to ‘**Start the Capture**’. Click on the ‘**OK**’ button and the computer will begin to capture everything in the capture window or on the screen of your video camera. Dual Camera Capture will capture video footage for up to 60 seconds, if you wish to stop the capture process before then click on the ‘**Stop Capture**’ button.

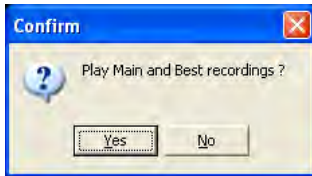


Clicking on the ‘OK’ button starts the capture process.

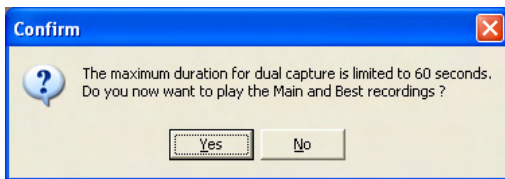


Click on the ‘Stop Capture’ button to stop the capture before the 60-second limit.

After the video capture has been completed a pop up windows will load asking if you would like to play the main and best videos. Click on the ‘Yes’ button to play both videos in the preview window.

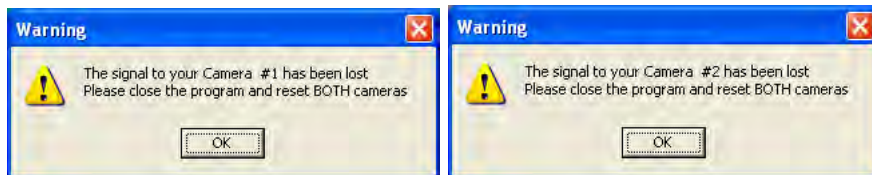


If dual camera capture is stopped before the 60-second limit. Both captured videos can be played in the preview window



Once the 60-second limit is reached. Capture automatically stops and the Main and Best videos can be played in the preview screen.

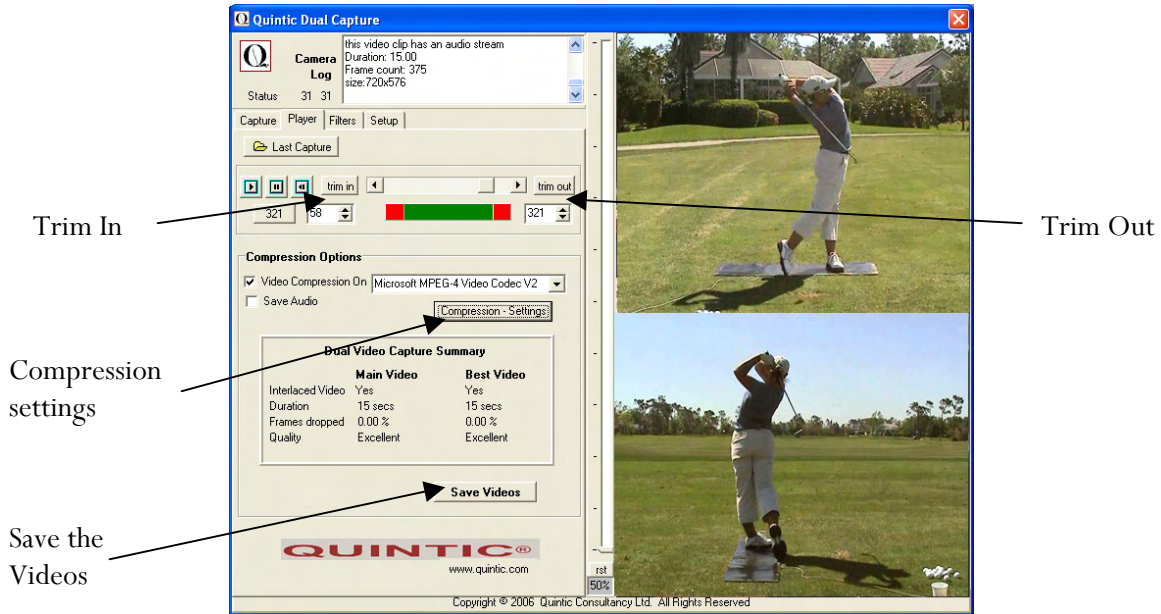
If either of the camera signals are lost during capture the pop up windows below will appear asking you to close the camera window, and reset both of your cameras. To reset your cameras turn both of the cameras off and then on again and wait for the your computer to recognise both signals.



N.B- To reset cameras turn both off the cameras off wait 5 seconds and then turn both cameras back on and wait for your computer to recognise both camera signals.

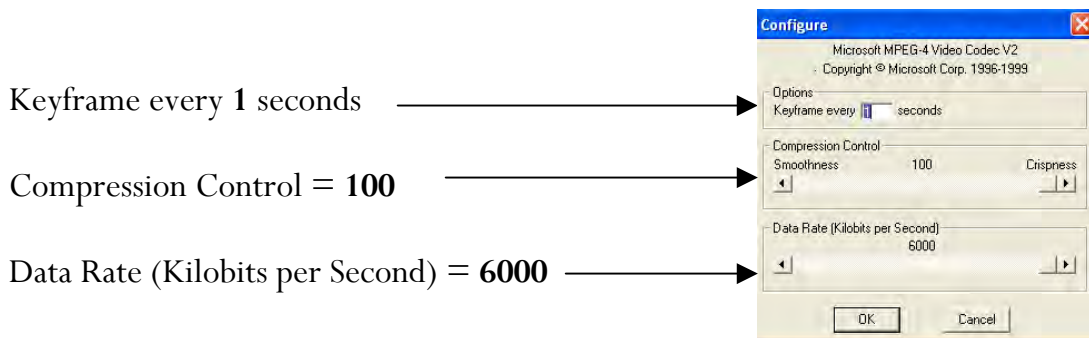
Quintic Dual Camera Player Mode

Once you have captured the required clips, you can trim in and trim out to make sure you only save the frames you really need.



Use the buttons on the left to play the captured clips and pause them at the first frame that you want to include in the saved version – you can use the scroll bar to move frame-by-frame so it is exact (in the above example, it's frame 58 address position). Click on '**Trim in**'. It will turn the portion of the scroll bar before frame 58 red. Now scroll to the last frame you want to include in the saved version (in the above example, it's frame 321, end of follow through). Click on '**Trim out**'. It will turn the portion of the scroll bar after frame 321 red. Because both videos were synchronised before capturing both videos will be trimmed in and out to the same frame.

After the videos have been trimmed click on the 'Compression Settings' button to change the compression and video quality settings (See Tutorial 5). Although the default settings will produce a good quality video, it is recommended that the settings be changed to:



N.B. Once the compression settings have been set the software will remember the last values used during the video capture process.

Filters can also be added to both of the captured videos please see the next section Advanced Capture Functions for more details.

Once you have changed the compression settings trimmed your video and added any filters you can save the captured videos by click on the 'Save Videos' button. Type in an appropriate file name, as both video files saved under the same name

e.g.

Trial_Main.avi

Trial_Best.avi

High Speed Capture

Set up

To use high speed capture the following hardware items are needed:



Basler Monochrome camera.



6pin to 6pin firewire card




PCMCIA Firewire card with an external power adaptor, to run high speed capture on a laptop.

Before high-speed capture can be ran the camera and high-speed drivers must be installed.

Please follow the step by step instructions below these can also be located in the following directory on the High speed capture installation disc that has been supplied.

- i) Make sure the Basler camera is NOT connected.
- ii) Double click on the ' BCAM 1394 Runtime 1_8_0050' driver package. (Located on High speed capture installation disc)
- iii) Follow the instructions from the driver package and connect the camera when asked to do so.
- iv) Basler have produced a BCAM Viewer which can be used to test their driver and setup the the controls for use with the Quintic-Basler Capture program.
- v) The 'BCAM Viewer' icon should have been installed on the desk-top. Double click on this icon and check that the A602f (Basler Driver) has been installed.(Left Click on the

'A602f' driver icon located in the left hand menu. Now click on the 'Continuous Grab' icon . This can be found just below the TOOLS menu. If the driver has been installed correctly a video preview should appear on the right hand side). If a Preview does not appear please check all connections and repeat steps 1-4.

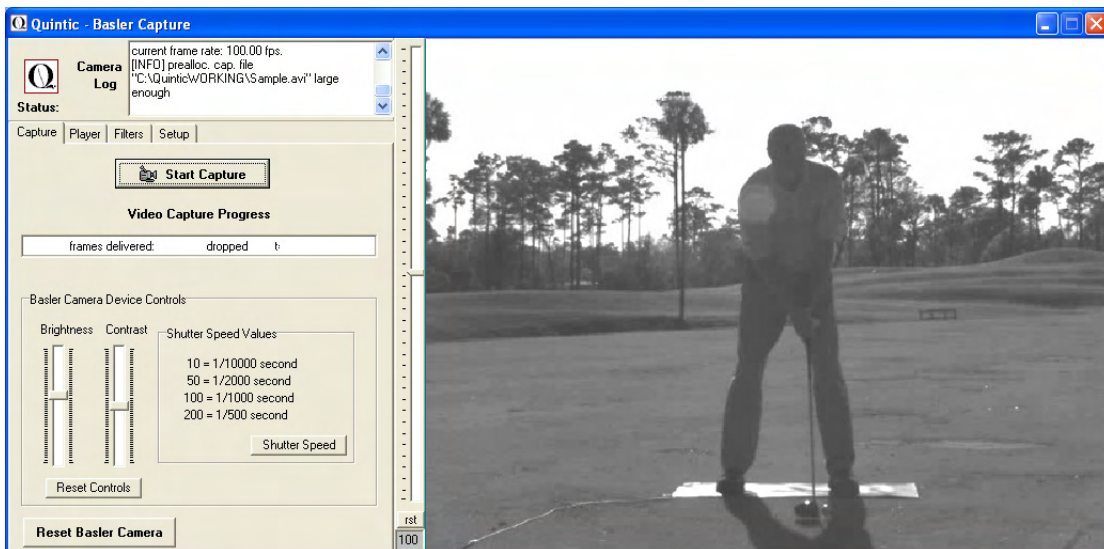
vi) The Quintic-Basler capture program can then be loaded.

Once you have completed the install procedure open Quintic Biomechanics and click on the 'Camera' tab in the Main window and then click on 'Open High Speed Capture'.



(Coaching and Biomechanics Screenshot)

The high-speed camera window will then open.



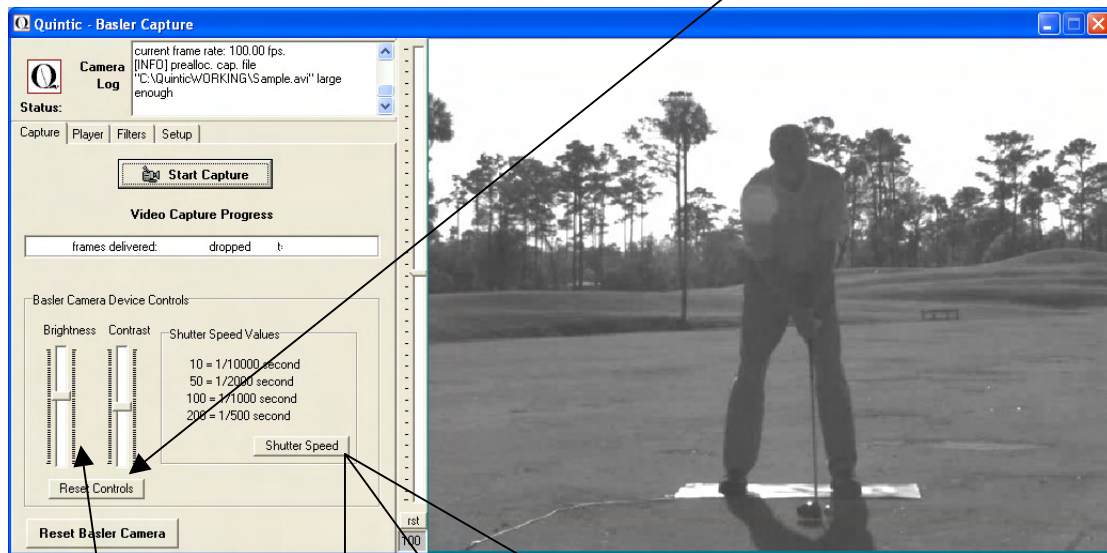
The capture of AVI (Audio, Video Interleave) video files requires significant computer resources. It is recommended that sets of pre-allocated files are created during an initial set up process. All video capture (AVI) are then written to these files. This approach will significantly reduce the risk of dropped frames during the video capture process.

Please Click on 'Setup' followed by 'Check the Current Pre-Allocation File Status' and follow the on screen instructions. For more information see **Tutorial 5 Video Capture Set-up**

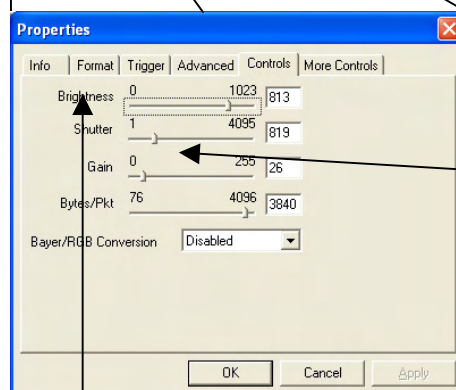
Capturing High Speed Video

Double click on the Quintic Biomechanics icon on the desktop and open the Biomechanics software. Click on the **'Camera'** tab in the **Main** window and then click on **'Open High Speed Capture'**. The camera window will open and a live preview will appear in the right hand side of the capture screen.

By clicking on the **Shutter Speed** and then selecting the 'controls' tab the user can alter the cameras shutter speed depending on the light. Using the 2 scroll bars can also alter video brightness and contrast accordingly. To reset the brightness or contrast to there default settings click on the 'Reset Controls' button.




Video Brightness and contrast can also be altered by using the two scroll bars.



Alter the Shutter speed by using the scroll bar. In brighter conditions a higher shutter rate can be used, which will also produce a sharper image. N.B for fast movements use the highest shutter speed possible.

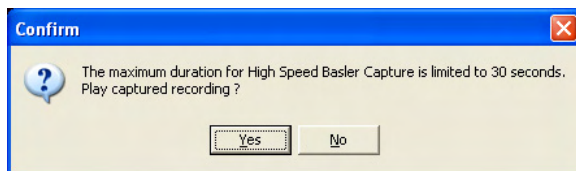
The video brightness can also be altered by using the scroll bar. When using high shutter speeds you may need to increase the brightness as well.

Once the shutter speed, brightness and contrast settings have been altered click on the  button to commence high speed capture. Once you on this button the preview window will disappear so make sure that the camera is set up correctly.

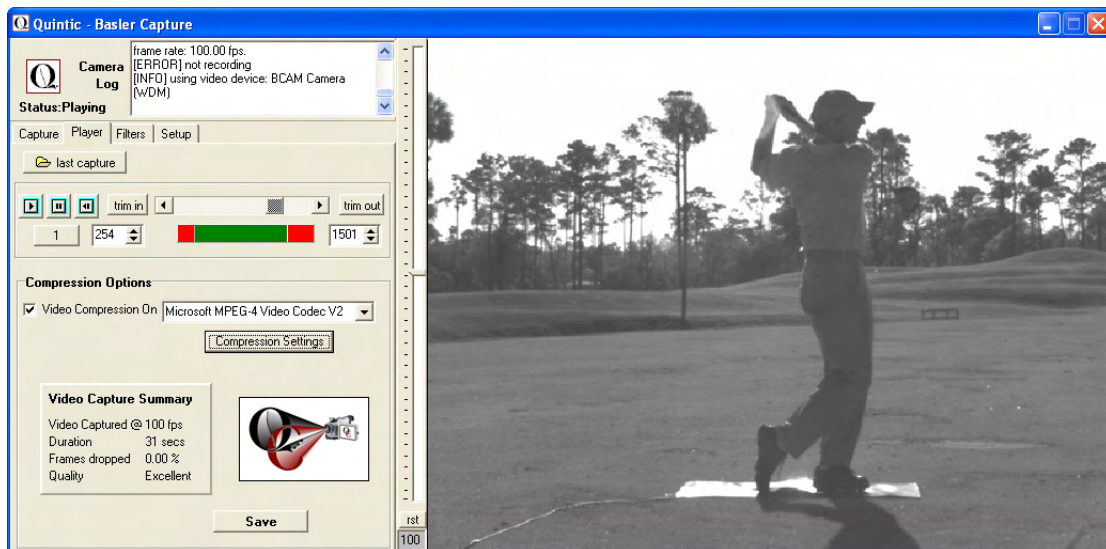
Once you have done this you will be prompted to **'Start the Capture'**. Click on the **'OK'** button and the computer will begin to capture for a maximum duration of 60 seconds, if you wish to stop the capture process before then the time limit is up click on the **'Stop Capture'** button. You will then be given the option to play the captured recording.



If high speed capture is stopped before the 30-second limit. The captured video can be played in the preview window by clicking on **'Yes'**



Once the 30second limit is reached. Capture automatically stops and the captured video can be viewed in the preview window, by clicking on **'Yes'**



Use the buttons on the left to play the captured clip, pause the clip at the first frame that you want to include in the saved version – you can use the scroll bar to move frame-by-frame (in the above example, it's frame 254 address position). Click on **'Trim in'**. It will turn the portion of the scroll bar before frame 254 red. Now scroll to the last frame you want to include in the saved version (in the

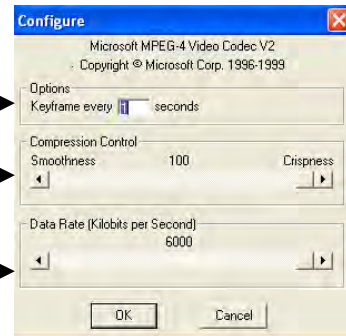
above example, it's frame 1501, end of follow through). Click on 'Trim out'. It will turn the portion of the scroll bar after frame 1501 red.

After the video has been trimmed click on the 'Compression Settings' button to change the compression and video quality settings (See Tutorial 5). Although the default settings will produce a good quality video, it is recommended that the settings be changed to:

Keyframe every 1 seconds

Compression Control = 100

Data Rate (Kilobits per Second) = 6000



N.B. Once the compression settings have been set the software will remember the last values used during the video capture process.

Filters can also be added to both of the captured videos please see the next section Advanced Capture Functions for more details.

Once you have changed the compression settings trimmed your video and added any filters you can save the captured video by click on the 'Save Video' button.

Advanced Capture Functions

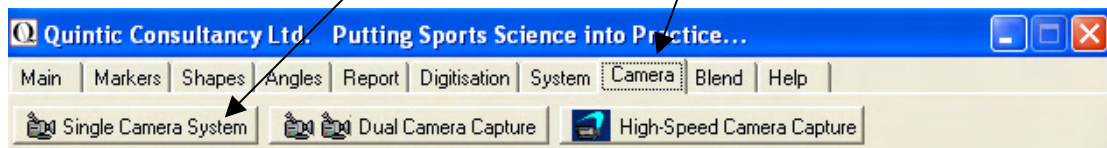
Contents

- Series Video Capture
- Instant Video Capture
- Video Filters
- Video Editing

1. Series Video Capture (Coaching and Biomechanics only).

Series video capture allows the user to capture, save and compress a sequence of up to 10 subsequent skills/movements of up to 30 seconds each. If capturing at Half/High settings there is no limit on how many videos can be captured using the sequential capture mode.

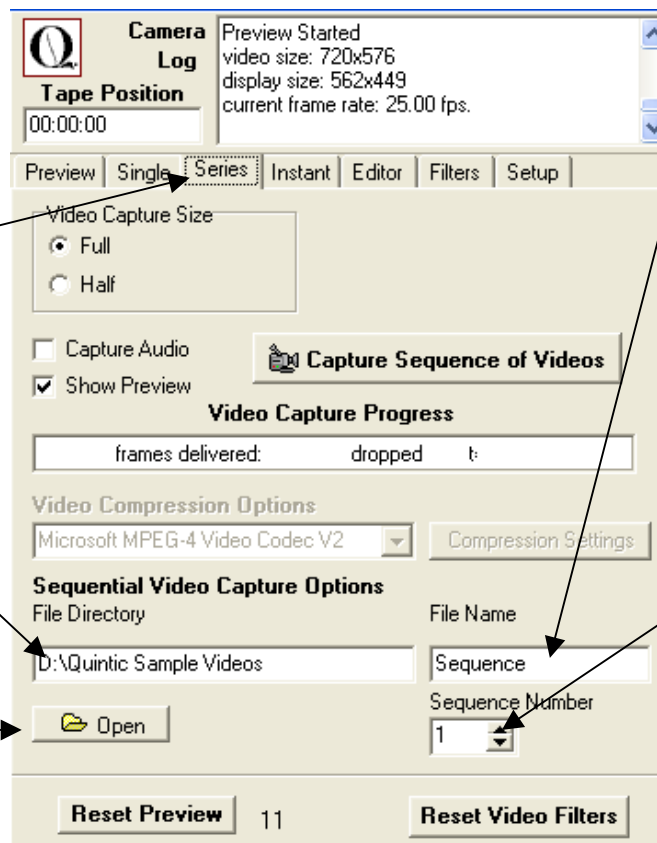
Open the Camera window by clicking on the ‘**Camera**’ tab in the **Main** window and then on ‘**Single Camera System**’.



1. Select Series Capture mode by clicking on the Series tab.

2. The folder in which the captured videos will be saved in appears in the text box.

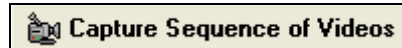
To change the designated folder write the folder name in the text box or click on the ‘**Open**’ button and select the required folder



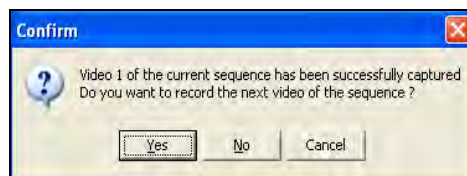
3. Select the default name for the video files you are going to capture by right clicking and writing the name in the text box.

4. Each video that is captured will be given the default name and a numerical number. Use the arrows to select the starting sequence number. In this case captured videos would be called: SequenceTest1, SequenceTest2, SequenceTest3 etc.

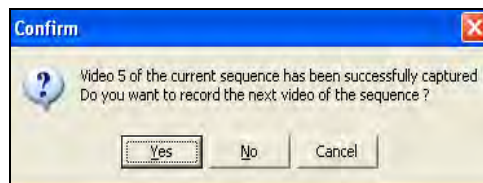
You are ready to capture a sequence of videos! Now Click **‘Capture Sequence of Videos’**. This will reduce the size of the preview image.



Once you have done this you will be prompted to **‘Start the Capture’**. When you press this button the video file of the image you see in the preview is being created. The computer is capturing everything you now watch in the capture window or on the screen of your video camera. Press **‘Stop Capture’** when you have captured the first performance of the skill. The computer has now captured the first video file, and will ask you if you want to start recording the next sequence.

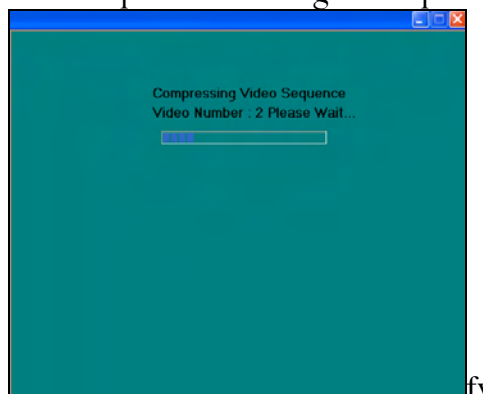


If you wish to capture another video sequence click on the **‘Yes’** button this will shrink the preview screen again and you will be prompted to **‘Start the Capture’**. The computer will then begin to capture the 2nd sequence until the **‘Stop Capture’** button is pressed, this sequence can be repeated up to ten times. Once you have captured all of the video footage you require click on the **‘No’** button.

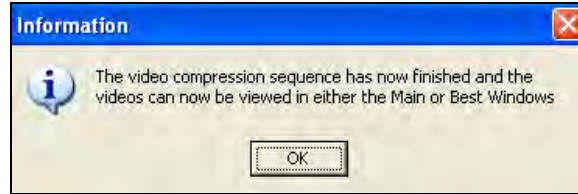


Clicking on the **‘Cancel’** button will delete all of the videos captured in the sequential capture mode.

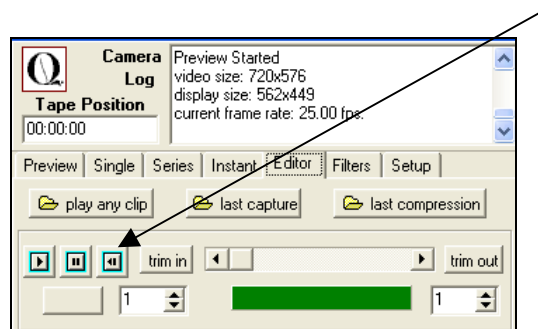
The computer will now automatically start to compress and save the captured files. The more files you have captured the longer this process will take.



When the computer has finished compressing and saving the video files the pop up box below will appear telling you, you can now watch the saved video files in the Quintic program.



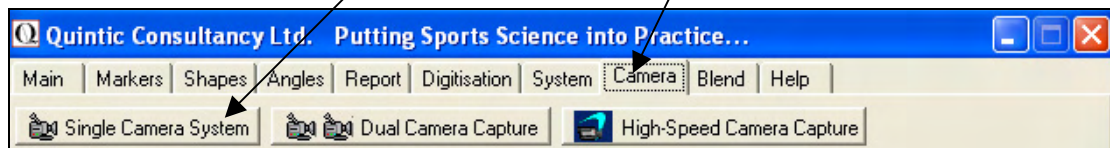
If a saved video file requires any additional editing it can be opened window by clicking the **‘Play any Clip’** button and selecting the desired file.



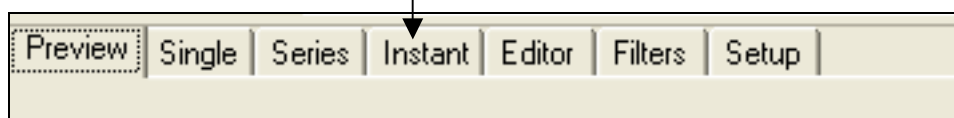
2. Instant Video Capture.

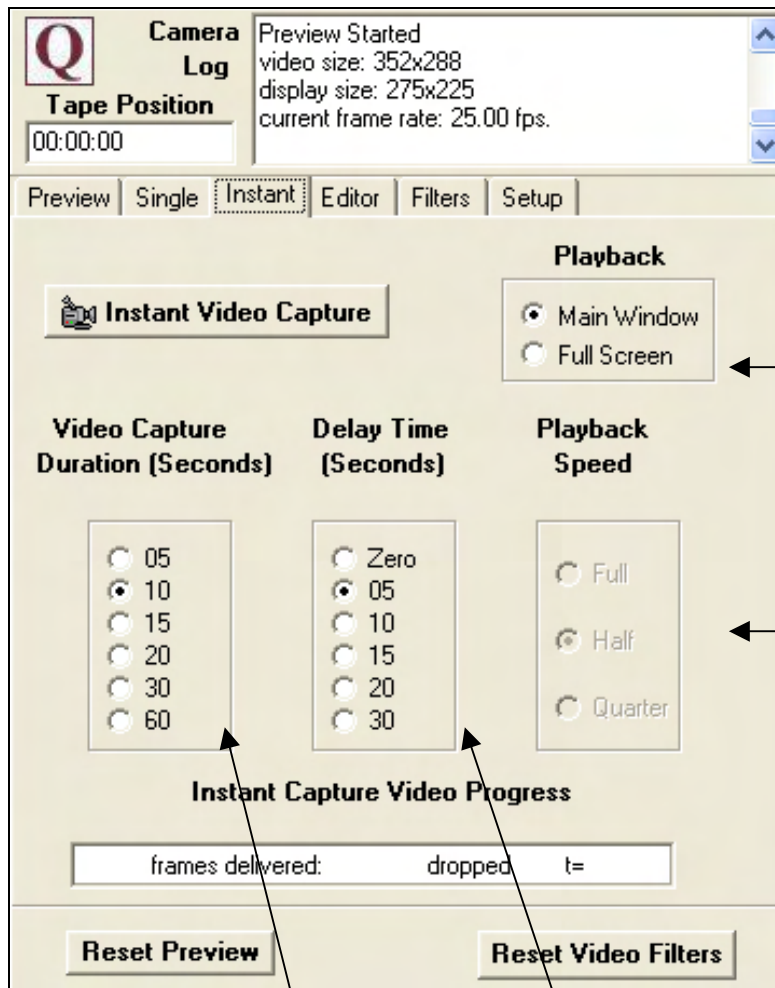
This capture function is ideal for providing instant visual feedback of the performance. It allows the user to capture for a designated period of time (5-60 seconds) with the advantage of instant or delayed (0-30 seconds) automatic playback at full, half or quarter speed. All footage captured using the instant function is captured at half size 360x258 and at 25 fps.

Open the Camera window by clicking on the **‘Camera’** tab in the **Main** window and then on **‘Single Camera System’** tab.



Open the Instant capture function by clicking on the **‘Instant’** tab. This will open the Instant capture screen.





4. Select whether you want to play the video back in the Main window or in full screen mode.

3. Select the playback speed. (Only available for selection in full screen mode)

1. Select the length of time that you wish to capture for.

2. Select the time delay from end of capture to start of playback.

Once you have adjusted the capture settings to what you require you are ready to use the Instant Capture function! To start capturing click **'Instant Video Capture'**.



You will then be prompted to start the Instant capture. While capturing in the Instant function a preview window is not shown.

The computer will now capture for the selected period of time before playing the video back after the desired delay time. As soon as the video has been captured the video is automatically saved within the **Instant Capture folder** located within the Quintic Sample Videos folder. The first video captured using Instant Capture will be saved as Video 1, after that each video will be allocated the next number in series, so the second instant video captured will be saved as Video 2, etc

For the settings shown overleaf the computer would capture for 10 seconds with a delay of 5 seconds before playing the footage back at half speed in the Main window.

During playback in full screen mode the following keys can be used to control the video.

P = Play

V = Pause

B = Step Forward

C = Step Backward

N = Slow Forward

X = Slow Rewind

M = Fast Forward

Z = Fast Rewind

If the saved video file requires any additional trimming in or trimming out it can be opened and edited in the '**Editor**' window by clicking the '**Play any Clip**' button and selecting the desired file.

By selecting to play the Instant Video capture in the main window, the captured video will play in the '**Main**' window. This allows the user to play the captured video frame by frame, as well as begin analysis straight away, i.e. draw lines, shapes angles etc straight onto the video, if you wish to save any of shapes, angles etc that you have drawn just click on the default save button.

To open the Instant video capture in the main window click in the tick box next to 'Main Window'

N.B All instant video captures are saved in the Instant Capture folder within the Quintic Sample Videos Folder.

3.Video Filters.

Quintic Video filters allow the user to change certain display characteristics and settings of a video file. These filters can be applied to new video footage during the capture process, or to saved video files already on the computer. These filters include:

- **Flip Vertical**
- **Flip Horizontal**
- **Invert Colours**
- **Greyscale**
- **Text Overlay (watermark)**
- **Brightness**
- **Contrast**

Flip Vertical

This filter flips the video footage vertically.



Flip Horizontal

This filter flips the video footage horizontally. Essentially changing footage of a right handed/footed skill into a left handed skill or visa versa.



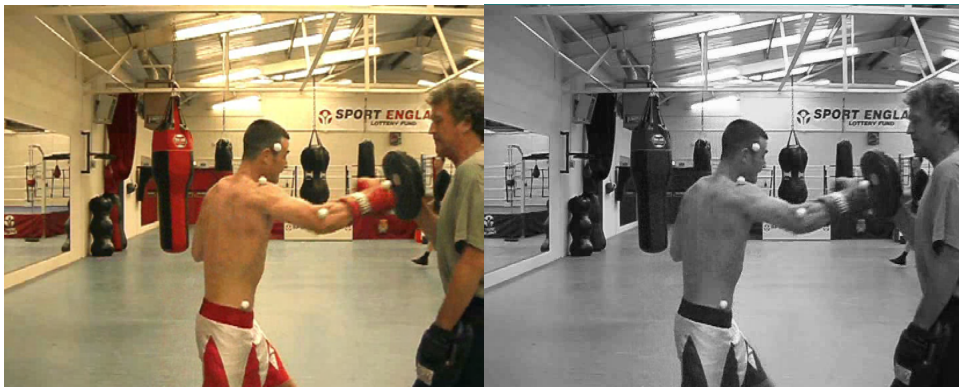
Invert Colours

This filter allows the user to invert the colours of the video footage.



Greyscale

This filter converts the colour video into greyscale format.



Text Overlay

This filter allows the user to insert text anywhere on the video image. Allowing key points, to be written onto of the video ideal for the coaching of new or difficult skills.



Brightness



- Brightness

Normal

+ Brightness

Contrast



- Contrast

Normal

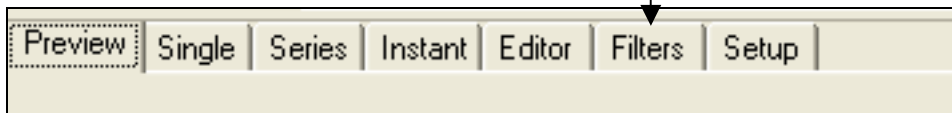
+ Contrast

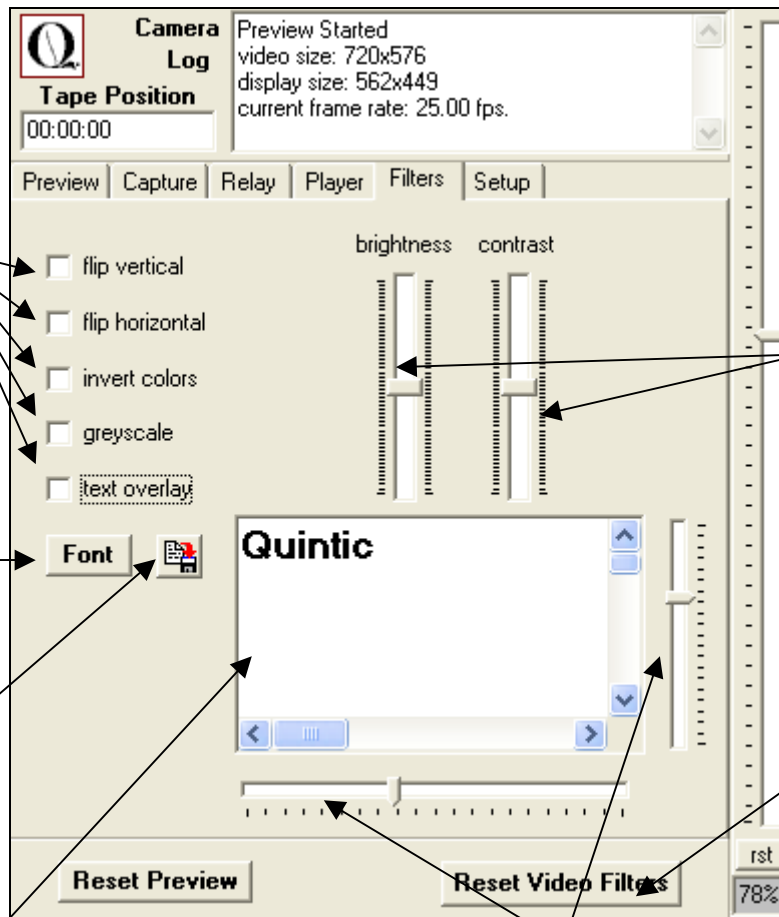
3a. Apply Filters to a Video During Capture.

Open the Camera window by clicking on the **'Camera'** tab in the **Main** window and then open the desired capture method.



Open the Filters function by clicking on the **'Filters'** tab. This will open the filters screen.





1. Tick the box of the desired filter.

2. Use the font button to change the font style and size.

Use the save button to save the desired font and text.

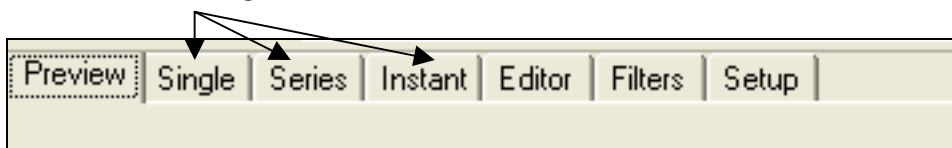
3. Click in the text box to insert any text into the video window.

5. Use the 2 Scroll bars to change the vertical and horizontal alignment of the text. The default setting is the top left hand corner.

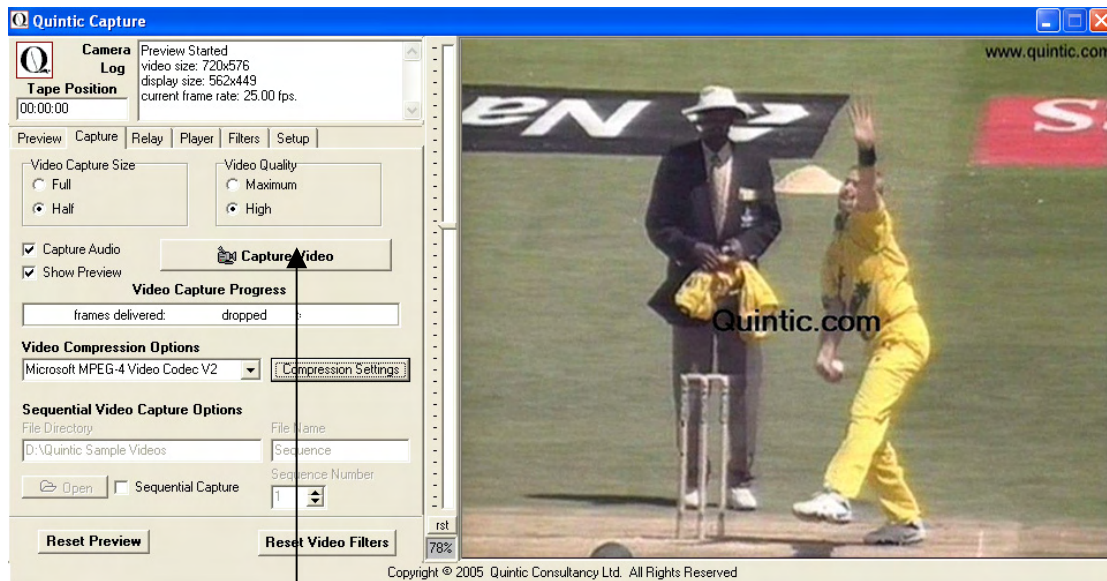
7. Using the 2 scroll bars can change Brightness and contrast settings.

6. Use the 'Reset Video Filters' button to reset all of the filters back to their default settings.

When the desired filters have been click on the desired mode of capture to capture the video footage.



The preview screen will display the video footage with the filters in place.



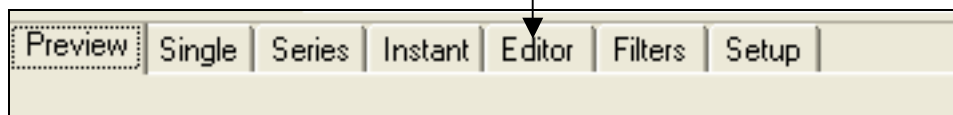
Click the **‘Capture Video’** button to begin the capture process.

3b. Apply Filters to a Saved Video File.

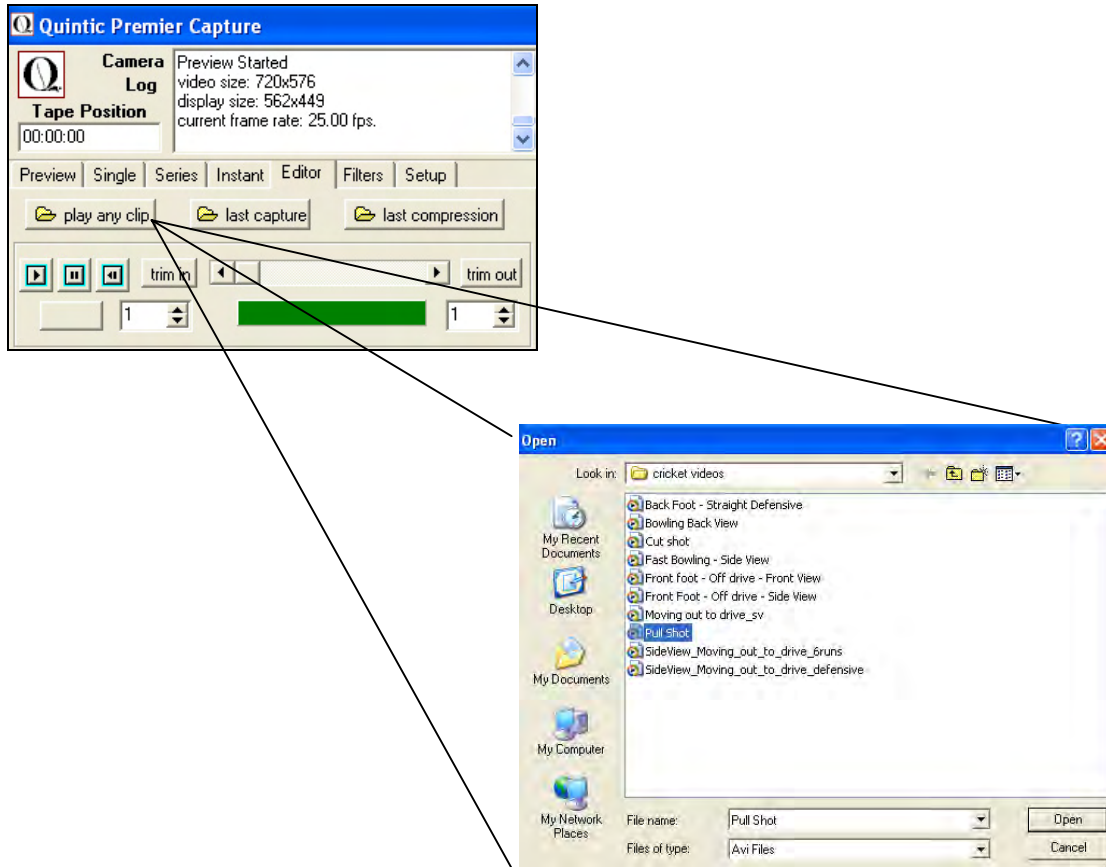
Open the camera window by clicking on the **‘Camera’** tab in the **Main** window and then open the desired capture system.



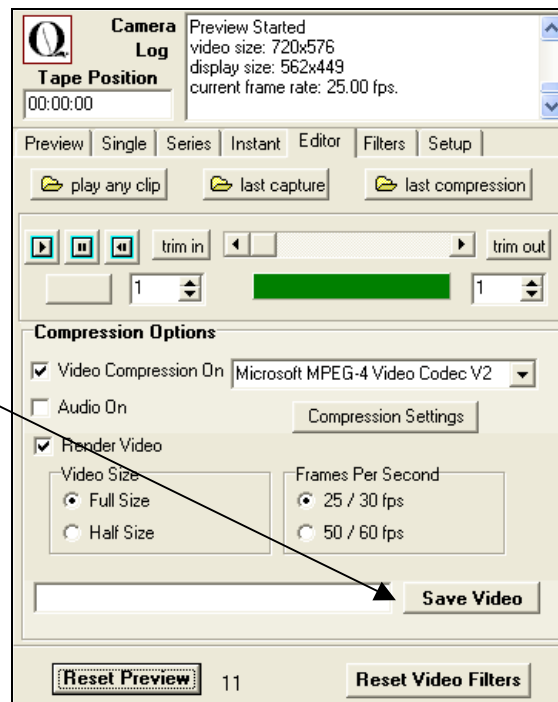
Open the Player function by clicking on the **‘Editor’** tab. This will open the filters screen.



Open a saved video file by clicking on the **‘Play any Clip’** button



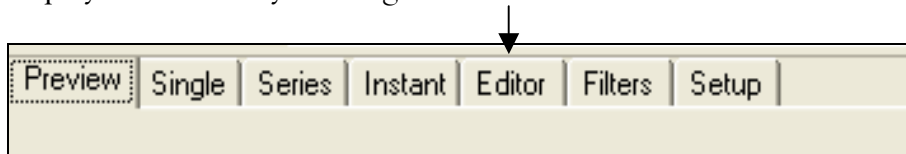
The video file will now begin to play in the preview window. Click on the filters tab to open the filters window and select the desired filter settings. To save the video with the new filters applied, reopen the Editor screen and click the **‘Save Video’** button.



4. Video Editing.

As well as allowing the user to edit a video file by using the ‘Trim in’ and ‘Trim out’ functions as described earlier in the tutorial. The Player window also allows the user to render saved video files, remove audio, and change the codec used for compressing the video.

Open the player window by clicking on the ‘Editor’ tab



Load a video in the player by using the ‘Play any Clip’ button. The selected file will load and begin to play in the preview window.

The Render function allows the user to change the frame rate of the video i.e. if an interlaced video file was captured at 25 frames per second, the player can convert this video into a 50 frames per second video, thus doubling the information that can be analysed from the video file. The user may also remove audio from the selected file, change the compression settings, as well as change the selected codec used to compress the video. When you have selected the settings you wish to change click on the ‘Save Video’ button and select a file name and folder to save this video file.

1. Load a video file by clicking on the ‘Play any Clip’ button

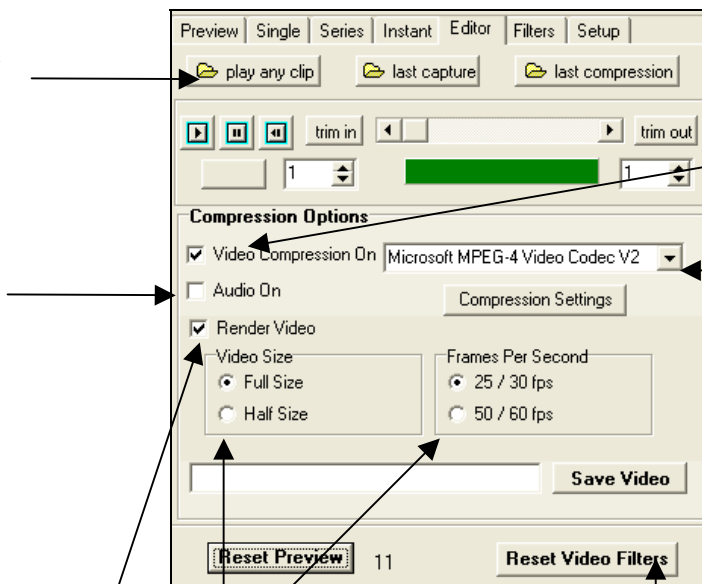
2. Un-tick the box to remove audio unmark the box

3. To render the video file tick the box, this will then activate the Video size and Frames Per Second options.

4. After the desired settings have been changed save the video by clicking the ‘Save video’ button.

6. Un-tick the box to save the video without compression

5. Change the codec used for compressing the video.



N.B: Any selected filters will also be saved to the video file.