

Quintic Software

Tutorial 6d

Quintic Image Recording
Platform

V33

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1. Camera Driver Installation

In order for Quintic High Speed Cameras to work within Quintic Software, camera drivers need to be installed.

Before installing the relevant camera drivers, it will be prudent to check whether your system type is a Windows 10 64-bit operating system, which is required for the Quintic Image Recording Platform to function correctly. You can do this by following these instructions:

a. System Type 32- or 64-Bit Operating System

Click on the Start menu in the bottom left hand corner of your screen or press the start button on your keyboard.

Go to 'Control Panel' then 'System and Security' then 'System'. This will bring up the basic specification of your computer, where you will find the system type as well as other information regarding the machine, such as the RAM and Processor.

View basic information about your computer

Windows edition

Windows 10 Home

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System

Processor: Intel(R) Core(TM) i5-7400 CPU @ 3.00GHz 3.00 GHz

Installed memory (RAM): 16.0 GB

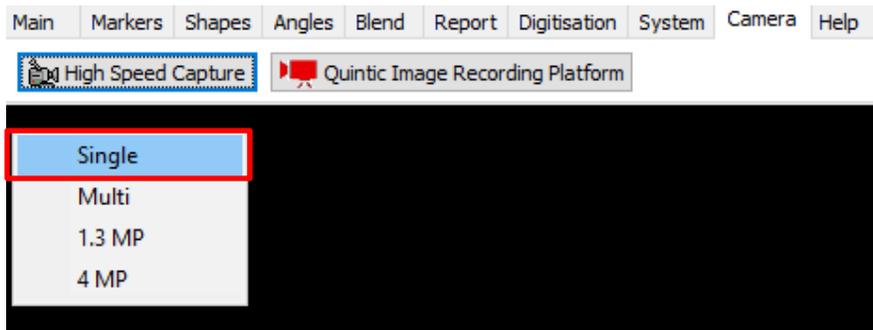
System type: 64-bit Operating System x64-based processor

Pen and Touch: No Pen or Touch Input is available for this Display

Please make a note of which System type you are using (i.e 32 bit or 64 bit). If the wrong installation is used the camera(s) may not work.

Once the system type has been identified, please begin the Quintic Camera Driver Installation (see the next page for detailed installation instructions).

Once you have correctly licensed your Quintic Software (see your Licence Letter for further information on this process) you are able to access the Camera Drivers by simply clicking on 'High Speed Capture' then 'Single'.



As none of the Camera drivers have yet been installed, this will bring you to the following webpage (secure internet connection required):

The screenshot shows the 'Quintic Downloads' webpage. On the left is an image of a female athlete in a 'GREAT BRITAIN' uniform. The main content area has a 'Please Note' section and three numbered download instructions:

- 1) Quintic Image Recording Platform (SPORTS / COACHING / BIOMECHANICS) : (Windows Ten 64-bit operating system)**
 - Please read ALL of the following download instructions BEFORE downloading the latest **Quintic** Image Recording Platform - [Please Click Here for Quintic IRP Tutorial](#)
 - Click on the **Quintic** Image Recording Platform icon to the right to download the program onto your computer. Once downloaded please unblock and then unzip the folder. Click on **Set-up**. You will be asked to install the following Visual C++ Runtime Libraries (64bit) program. Please click Install. Once completed, close installer and return to Quintic Video Analysis Software, Camera Tab.

An inset window titled 'Quintic Recording System Setup' shows the following components will be installed on your machine:

- Visual C++ "14" Runtime Libraries (x64)

Do you wish to install these components?

If you choose Cancel, setup will exit.

Buttons: Install, Cancel

- 2) Quintic Single High-Speed Camera (SPORTS / COACHING / BIOMECHANICS) : (Windows Seven, Eight, Ten)**
 - Please read ALL of the following download instructions BEFORE downloading the latest **Quintic** Single High-Speed Camera - [Please Click Here for SINGLE High-Speed Tutorials](#)
 - Click on the **Quintic** icon to the right to download your **Quintic** Single High-Speed program onto your computer. Once downloaded, please follow the install shield instructions to install.
- 3) Quintic DUAL High-Speed Camera (COACHING) : (Windows Seven, Eight, Ten)**
 - Click on the **Quintic** icon to the right to download your **Quintic** DUAL High-Speed program onto your computer. Once downloaded, please follow the install shield instructions to install.
 - Once you have successfully downloaded the required files onto your computer it is recommended that you complete the associated **Quintic** Tutorials. These tutorials will help you learn about the different functionality of your **Quintic** Software.
 - [Please Click Here for High-Speed Camera Tutorials](#)

The user is then able to select which camera drivers they wish to be installed out of the options available to them. Please see the next page for advice on which camera drivers will be required.

In order for Quintic Cameras to be recognised on your machine, Quintic High Speed Camera Drivers need to be installed. For the Quintic USB3 cameras we would recommend the following driver:

7) Quintic High-Speed Camera Driver: 64bit Quintic USB3 High-Speed Camera 4.94 (Windows 10 - 64 Bit operating system)

Once you have located the correct Camera Driver, please complete the installation by following these instructions:

- 1. Please ensure any Quintic Cameras are not connected to the computer at this stage.**
2. Click on the Quintic Logo for the Camera Driver you require (Option 7) and select Save. Once saved run the install shield.
3. The uEye install shield will now launch. Please select your setup language.
4. Select 'Install Driver' and select option 1, 'Complete', to install the full driver and then select 'Next'.
5. The software will now install to the default location C:\Program Files\IDS\uEye. To continue the installation, click 'Next'.
6. To begin the installation, click on the 'Install' option.
7. Once the installation has completed, deselect the HTML option as this is not needed, then click on 'Next'.
8. Once the set-up has been completed click on the 'Finish' button. The Camera(s) can now be connected to the computer.

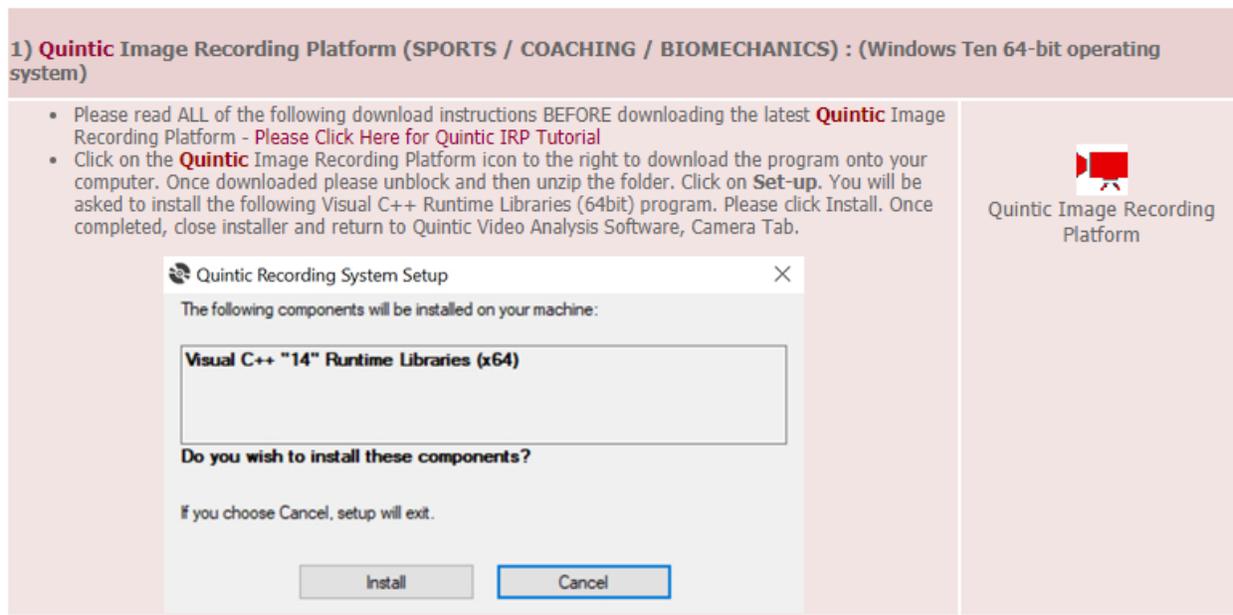
2. Quintic Image Recording Platform Installation

Now that the Quintic High Speed Camera Driver has been installed, you will also require the Quintic Image Recording Platform program to be installed. Regardless of which Quintic Camera you are using, the Quintic Image Recording Platform should be installed. The Quintic Image Recording Platform Program is available on the same webpage where the Quintic Camera Drivers were downloaded from.

1) Quintic Image Recording Platform (SPORTS / COACHING / BIOMECHANICS) : (Windows Ten 64-bit operating system)

Please Note: You may need to unblock the setup exe to complete a full installation.

To do this, please locate the saved Install Shield on your machine, **right click** it and go to "Properties -> General." Click "Unblock" to unblock the exe.



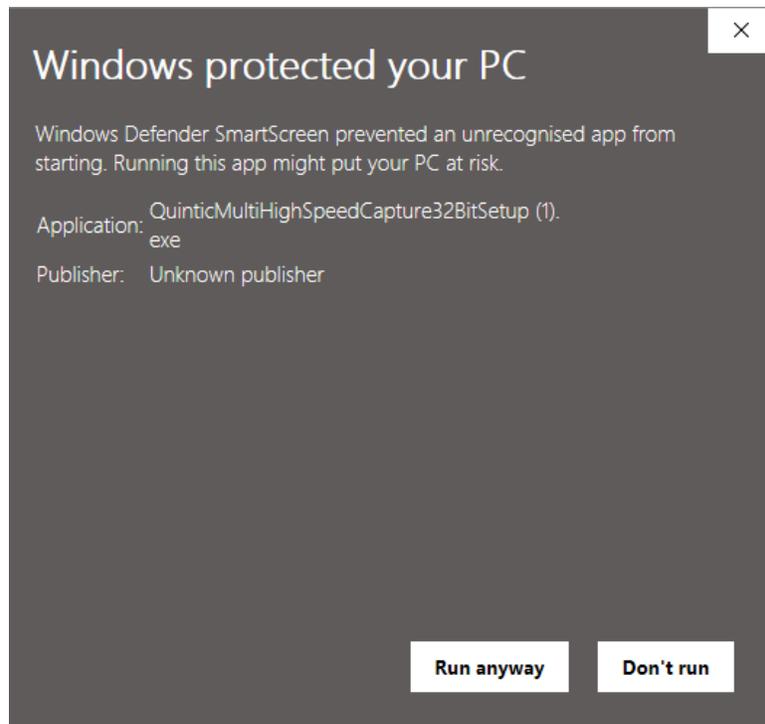
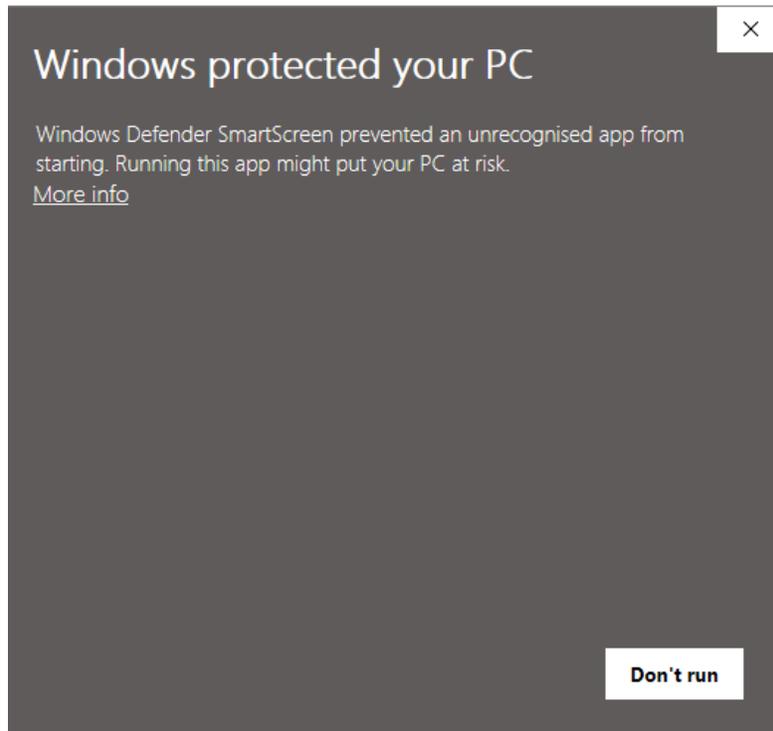
The screenshot shows a webpage for the Quintic Image Recording Platform. The page title is "1) Quintic Image Recording Platform (SPORTS / COACHING / BIOMECHANICS) : (Windows Ten 64-bit operating system)". Below the title, there are two bullet points: "Please read ALL of the following download instructions BEFORE downloading the latest Quintic Image Recording Platform - Please Click Here for Quintic IRP Tutorial" and "Click on the Quintic Image Recording Platform icon to the right to download the program onto your computer. Once downloaded please unblock and then unzip the folder. Click on Set-up. You will be asked to install the following Visual C++ Runtime Libraries (64bit) program. Please click Install. Once completed, close installer and return to Quintic Video Analysis Software, Camera Tab." To the right of the text is a red icon with a white play button and the text "Quintic Image Recording Platform". Below the text and icon is a screenshot of a Windows system setup dialog box titled "Quintic Recording System Setup". The dialog box contains the text "The following components will be installed on your machine:" followed by a list box containing "Visual C++ '14' Runtime Libraries (x64)". Below the list box is the question "Do you wish to install these components?" and the instruction "If you choose Cancel, setup will exit." At the bottom of the dialog box are two buttons: "Install" and "Cancel".

The Quintic Image Recording Platform program is very simple to download and install.

Simply click on the Logo next to the Quintic Image Recording Platform and save this program to a location on the machine of your choice. Once downloaded please unblock and then unzip the folder.

N.B Please ensure any Quintic Cameras are not connected to the computer at this stage.

If Windows blocks the program and a pop – up window similar to below appears, please select 'More Info' then 'Run Anyway'



Click on Set-up. You will be asked to install the Visual C++ Runtime Libraries (64bit) program. Please click Install.

Once completed, a Desktop Icon will not be created, the software will run in the background once clicked within the Quintic software. If you would like to double check the Quintic Camera Capture software have been installed, you can do this through 'Control Panel' then 'Programs and Features'.

Now that the Quintic Camera Drivers and Capture software has been installed, please see the following pages for information on how to configure your Quintic Camera and capture video footage.

3. Cam ID's

To ensure that your Quintic Camera is configured correctly, simply click on IDS Camera Manager.



This will show all live cameras that are plugged into the computer and have been recognised.

Your Quintic USB3 Camera should appear 'Yes' to free and 'Yes' to available. This will mean the camera is able to be opened within Quintic Software.

Free	Avail.	Type	Cam.ID
Yes	Yes	USB	1

In order for a Quintic Camera to be recognised by the Quintic Image Recording Platform, the Cam ID for the Quintic Camera has to be 1, if only one camera is used. If more than one Quintic Camera is used, the Cam IDs to be used are 1, 2, 3, 4, 5 and 6 depending on how many Quintic Cameras you are using, in that order.

A screenshot of the IDS Camera Manager software interface. The window title is 'IDS Camera Manager - 64-Bit'. It features a 'Camera list' table, a 'Control center' with various buttons, a 'Parameters' panel on the right, and a status bar at the bottom.

Free	Avail.	Type	Cam.ID	Dev.ID	Model	SerNo.
Yes	Yes	USB	1	1	UI-337xCP-M	4103442752

Parameter	Value
Device	
Sensor ID	106
Camera temperature	25.2° C (77.3° F)
Starter firmware version	0.00.0000
Runtime firmware version	4.93.1690
COM port number	100
USB	
Data transfer	Super speed (USB 3.0)
1. Hub	USB Root Hub (USB 3.0) (Port 19)
2. Controller	Intel(R) USB 3.0 eXtensible Host Controlle...
Local driver	
USB version	4.93.1314

Control center

Expert mode Automatic parameter refresh

General information Camera information

Create support file ETH network service

Additional functions Automatic ETH configuration

Upload starter firmware Manual ETH configuration

English Close

Status of device Nr. 1: The camera is configured correctly and can be opened.

Should you need to change the Cam ID for the Quintic Camera, please select the camera within IDS Camera Manager (so it is highlighted in blue) and click Camera Information. This will bring up the Camera Information window, where users can type in the Cam ID and click OK, which should change the Cam ID for the Quintic Camera.

Camera information

Device ID: 1

Manufacturer: IDS GmbH

Date of QC: 09.01.2019

Camera ID: 1

User EEPROM (max. 64 characters):

Cancel OK

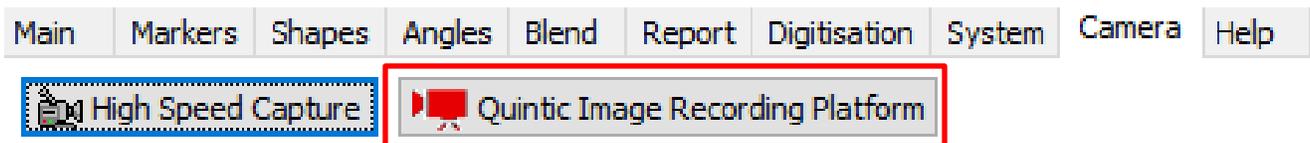
4. Quintic Image Recording Platform

The Quintic Image Recording Platform allows users to set a pre/post buffer for recording videos (e.g. 2 seconds before clicking “Record” and 2 seconds after this has been clicked), trim videos before saving and change camera settings more easily than before.

Quintic Sports v33 software is able to record video footage from 1 Quintic Camera.

Quintic Coaching v33 and Quintic Biomechanics v33 software are able to record video footage from 1 to 6 Quintic Cameras.

Once the Quintic Image Recording Platform has been installed and the Quintic Camera has the correct Cam ID set, you are now ready for the camera to be opened within the Quintic software. Please click on the ‘Quintic Image Recording Platform’ button within the camera tab which should now load the camera capture program. The camera capture program will only load if a Quintic Camera is plugged in.





The Quintic Image Recording Platform should then open with a live view of the camera(s) which are plugged into the PC and are configured correctly (Cam IDs). The first time the Quintic Image Recording Platform is opened, it will open with 1 camera, regardless of how many you have plugged into the PC. This can be changed by going into the Settings, then Acquisition. Please read on for further information.



Shows which Camera this window is displaying.

Shows how full the camera buffer is.

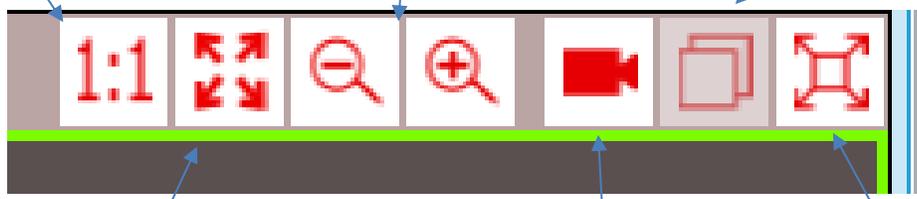
Shows how much space is available on the C Drive of the machine.



Displays the live view at its original size.

Allows the user to increase or decrease the size of the live view.

Shows all of the other camera views which are currently open.



Displays the live view in full screen.

Allows the user to adjust the camera settings for this particular camera. Please see the next page for further information.

Maximises the current camera view so that this view is the only one visible.

When the user clicks on the Camera Settings button,  this will bring up the following window, where users can adjust the settings of the camera.

Camera Settings: Cam1 ×

Acquisition Settings

Frame Rate:	<input type="text" value="300"/>	Min:	<input type="text" value="2"/>	Max:	<input type="text" value="300"/>
Exposure Time:	<input type="text" value="3.194"/>	Min:	<input type="text" value="0.038"/>	Max:	<input type="text" value="3.266"/>
Pixel Clock:	<input type="text" value="344"/>	Min:	<input type="text" value="38"/>	Max:	<input type="text" value="344"/>

Image Properties

Image Width:	<input type="text" value="1,280"/>	Min:	<input type="text" value="16"/>	Max:	<input type="text" value="2,048"/>
Image Height:	<input type="text" value="544"/>	Min:	<input type="text" value="2"/>	Max:	<input type="text" value="2,048"/>
Offset X:	<input type="text" value="0"/>	Min:	<input type="text" value="0"/>	Max:	<input type="text" value="768"/>
Offset Y:	<input type="text" value="240"/>	Min:	<input type="text" value="0"/>	Max:	<input type="text" value="1,504"/>
Auto centre:	<input type="checkbox"/>				

Close

Frame Rate – This shows the current frame rate the camera is running at. Users are also able to see the minimum and maximum frames per second available for the current image resolution. Users do not set the frames per second for the video here – this is done on the right hand panel of the main software window.

Exposure Time – This shows the current exposure time of the camera. Users can adjust this per camera and also see the minimum and maximum exposure times.

Pixel Clock – This sets the clock rate at which the image data is read from the sensor. We would recommend this being at the maximum to run the camera at its full potential (default is maximum).

Image Width – This shows the current width of the live view, as well as the minimum and maximum widths available. Users are able to adjust this accordingly per camera.

Image Height – This shows the current height of the live view, as well as the minimum and maximum heights available. Users are able to adjust this accordingly per camera.

Offset X – This allows the user to put an offset in the horizontal axis from the left-hand edge on the live view, should they not want the image to be captured from the centre.

Offset Y – This allows the user to put an offset in the vertical axis from the top edge on the live view, should they not want the image to be captured from the centre.

Auto Centre – Selecting this puts the Area of Interest in the centre for both X and Y.

On the right hand side of the Quintic Image Recording Platform are the main controls, where the user is able to control frame rate, pre/post triggers, save/create presets and choose where the recording should be saved as well as the file name.

Preset   

300 fps

Frame Rate fps

Pre Trigger S

Post Trigger S

Settings 

Sequence

Example

Index 0001 Reset

Target Folder:

C:\Users\User\Desktop

Browse...



Save Preset. This saves the current settings for all the cameras into one preset. Users are able to create presets which are saved in the Quintic Image Recording Platform software.



Add Preset. This allows the user to create a new preset. This should be pressed to start a new preset. Once users have created the preset and adjusted the settings accordingly, this will need saving by pressing the Save Preset button.



Delete Preset. This deletes the current preset.

300 fps

This shows the current preset which is being used in the Quintic Image Recording Platform. Users are also able to use the drop down list to view/use other presets.

Frame Rate – This is the frame rate for all of the cameras which are open in the Quintic Image Recording Platform. Users control this from here. It is important that the user has checked the settings for each individual camera to confirm that they are all able to run at this requested frame rate at their current image resolutions. If the user sets the Frame Rate too high for what the image resolution can cope with, the software will automatically change the Frame Rate to the maximum Frame rate it can cope with.

Pre Trigger – This controls how many seconds are going to be recorded before the user clicks the “Record” button. It is important that the buffer count is big enough to cope with the pre trigger. Buffer count is controlled within the settings tab.

Post Trigger – This controls how many seconds are going to be recorded after the user clicks the “Record” button.

Settings – These allow the user to adjust the settings for the Quintic Image Recording Platform. Please see below for more information on the settings window. Once settings have been changed, the Quintic Image Recording Platform will need to be closed and reopened in order for these changes to come into effect.

Sequence – This is where the user is able to name the video. Users have the option to add video indexes/dates and times to the file name within Settings > Recording.

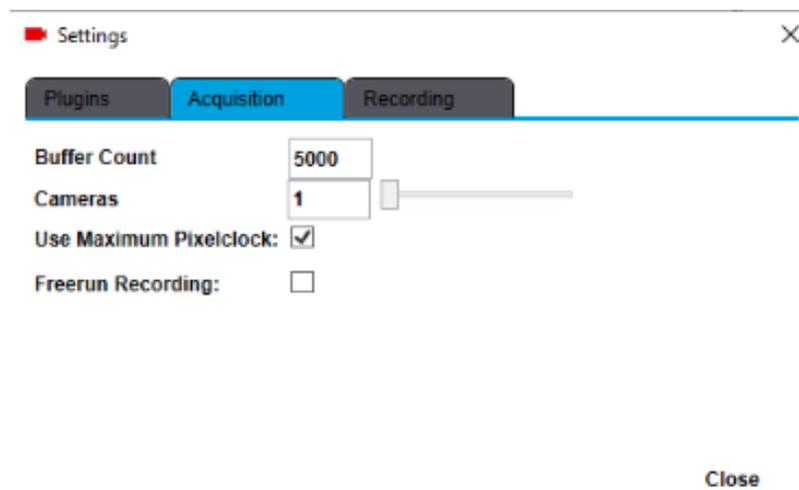
Target Folder – This is where the user is able to choose the folder in which they would like the video to be saved. We would recommend this to be a folder on the PC (i.e. not on an external hard drive or the cloud). If your PC has an SSD and a standard Hard Drive, we would recommend you use the SSD.

a. Settings

If the user clicks the settings button, this will bring up the following window, where there are 3 tabs across the top.

Users do not currently need to adjust any settings in the “Plug In” tab. This controls the Acquisition and Recording Engine.

Within the “Acquisition” tab, this is where users are able to control the Buffer Count, Number of Cameras, Pixel Clock and whether they would like a Freerun Recording.



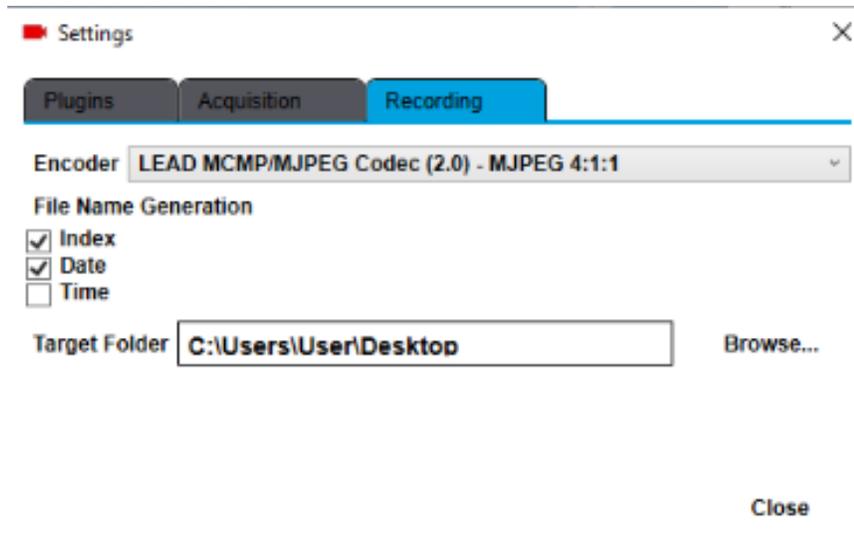
Buffer Count – This controls how many frames are in the buffer (pre trigger). This needs to be big enough for the pre trigger that the user sets. For the example above, the user has 5000 frames in the buffer, which would be more than enough for a video captured at 300 fps with a 2 second pre buffer (600 frames). This buffer count is per camera, not for all cameras which are open. For example a 5000 buffer for 4 cameras would be 20000, not 5000 split across 4 cameras.

Cameras – This is where the user is able to control how many cameras are open at one time within the Quintic Image Recording Platform. Quintic Sports v33 users are limited to 1 camera. Quintic Coaching v33/Quintic Biomechanics v33 users are able to choose between 1 and 6 Quintic cameras. Once the number of cameras has been changed, the Quintic Image Recording Platform will need to be closed and reopened in order for these changes to come into effect.

Use Maximum Pixelclock – This is where users are able to select whether the cameras are using maximum pixelclock or not. Users should only untick this if the Quintic Cameras are required to be scaled back from running at optimum levels.

Freerun Recording – This is where the users are able to select whether the cameras are to capture videos using Freerun, rather than any buffers. Freerun recording is limited to 1 camera and 100fps. When Freerun is active, the record button changes to Start, and the user presses Start when they want the recording to start, then stop when they want the recording to stop. The video has a time limit of 45 minutes. Once a video has been recorded, users still have the option to trim it should this be required.

Within the recording tab, users are able to select the encoder, file name generation and the target folder for the preset.



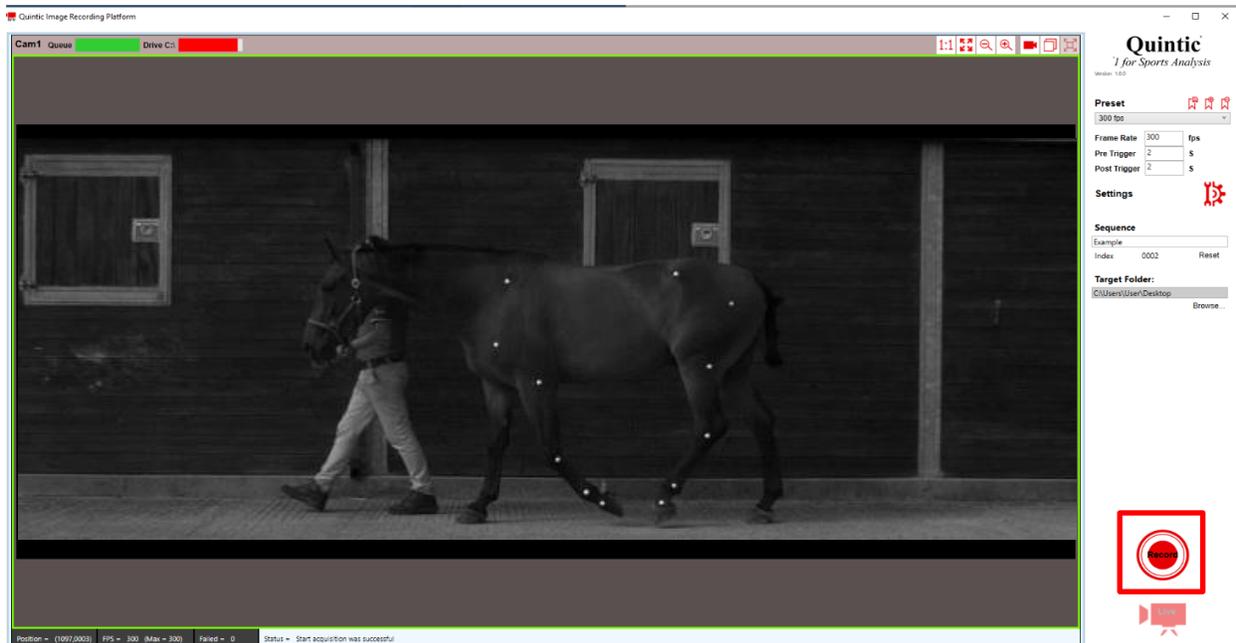
Encoder – This allows the user to control whether the video is captured with compression on or not. We would recommend the users capture with 'Lead MCMP/MJPEG Codec (2.0) – MJPEG 4:1:1' when capturing videos. For example, a 5 second video recording without compression could have a file size of 996MB, whereas with the Lead Codec used, a 5 second video has a file size of around 30MB.

File Name Generation – This is where the users are able to select whether they would like to include an index (number), date and time in the name of each video they record.

Target Folder – This sets the target folder for the Quintic Image Recording Platform.

b. Recording Video Footage

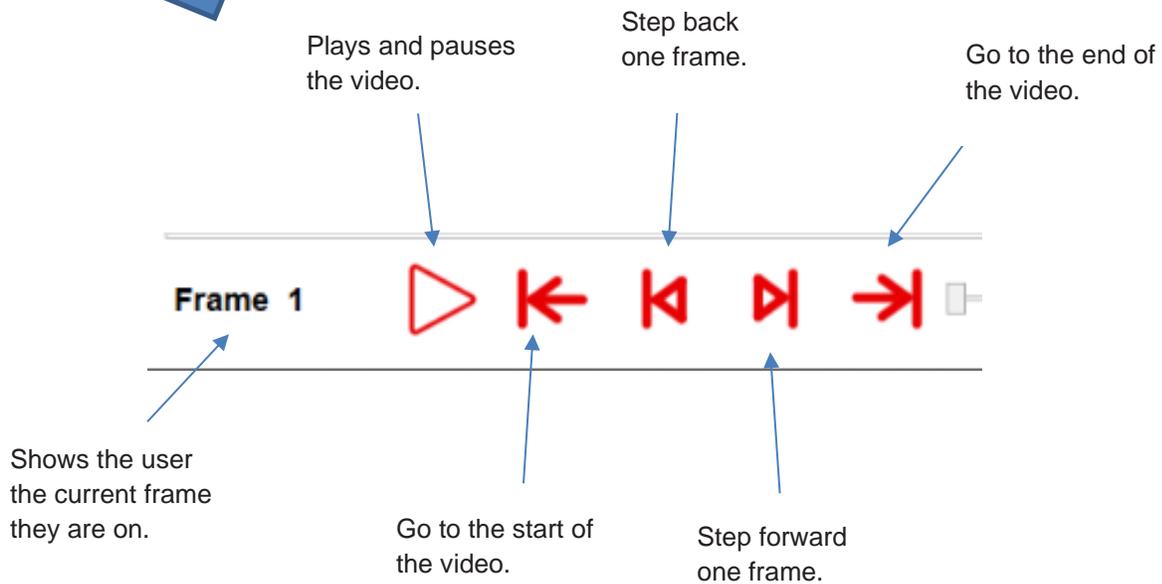
Once users are happy with the settings of the camera, they are ready to record video footage. This is done by pressing the 'Record' button on the bottom right-hand side of the Quintic Image Recording Platform software.



When the video is being captured, a green progress bar will appear to show the progress of the video being recorded. The Record button will turn into an Abort button whilst the video is being captured, which will cancel the recording entirely. (It will not simply stop the recording at its current point).

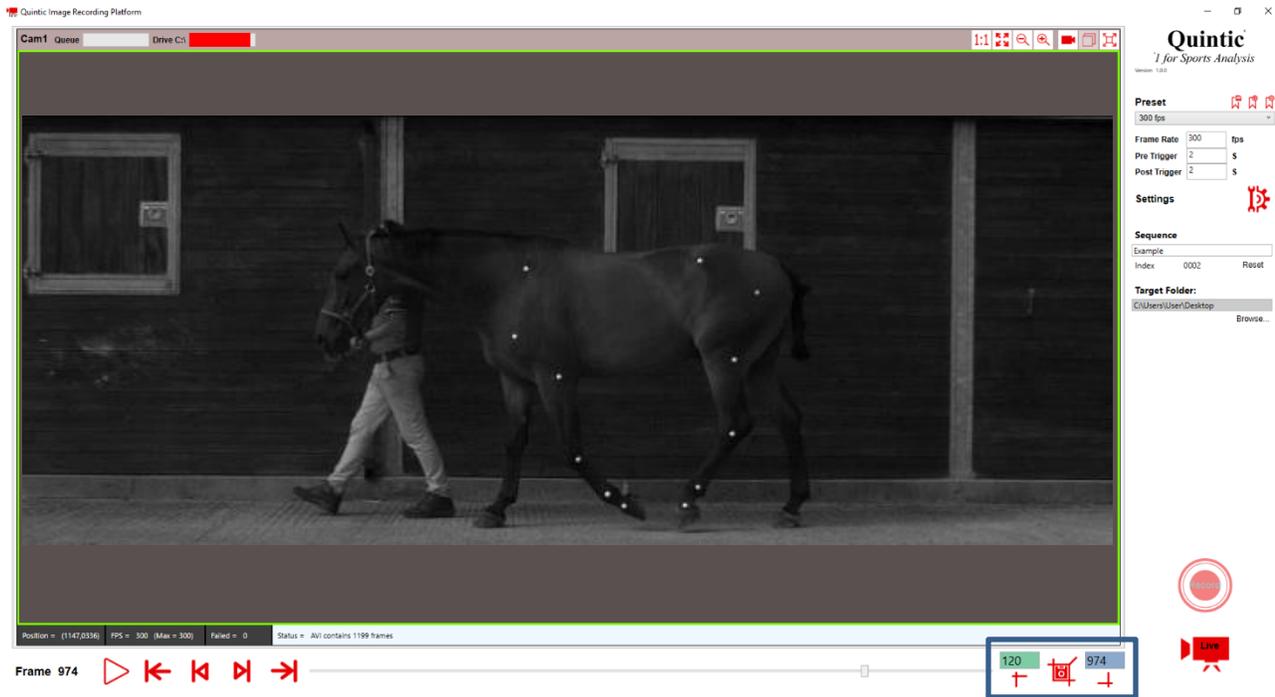


Once the video has been recorded, this will then load in the Quintic Image Recording Platform. Users are able to play and trim the video before moving onto the next recording.



If the users are happy with the video, they are able to press the Live button which will then close off the current video and save this, as well as open the live feed of the camera.

If the video needs trimming to remove excess footage, they can do this by using the trim buttons, illustrated below. Once trimmed, press the Live button to open the live feed of the camera and continue to capture videos should you wish to do so.



Press this trim button to save the trim. Please bear in mind this will overwrite the original video file.



Use the scrollbar to find the first frame to which you would like to "trim in" and click this button to select the point.

Use the scrollbar to find the last frame to which you would like to "trim out" and click this button to select the point.