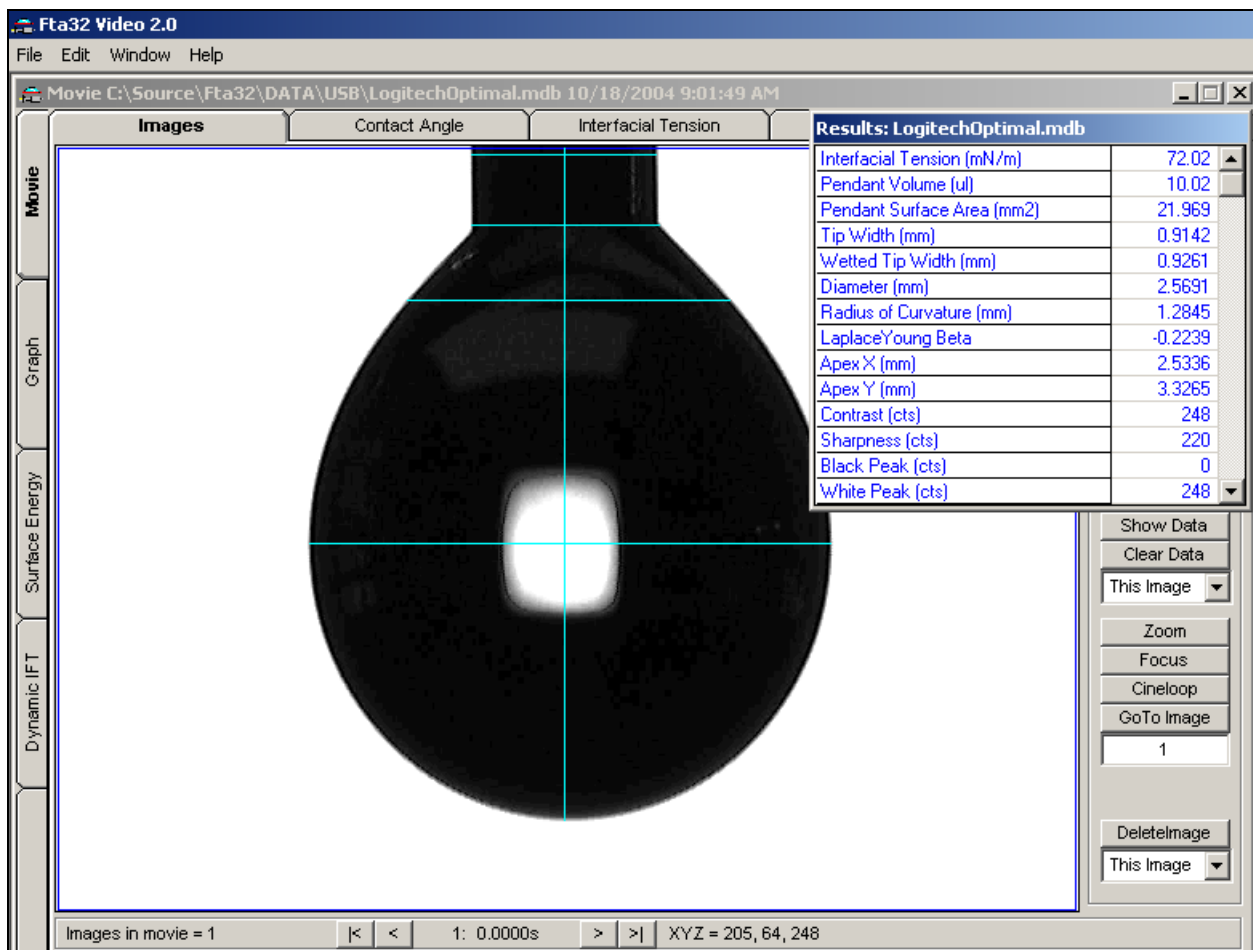


## USB 1.1 Images

18 October 2004

Logitech QuickCam 4000 cameras are used on FTA systems requiring a USB 1.1 camera. These are excellent for portable systems but require special setup for use with the backlit refraction images of drop shape systems. Their default setup is for a normally lit facial image. The following image shows a pendant drop with a correctly setup camera.



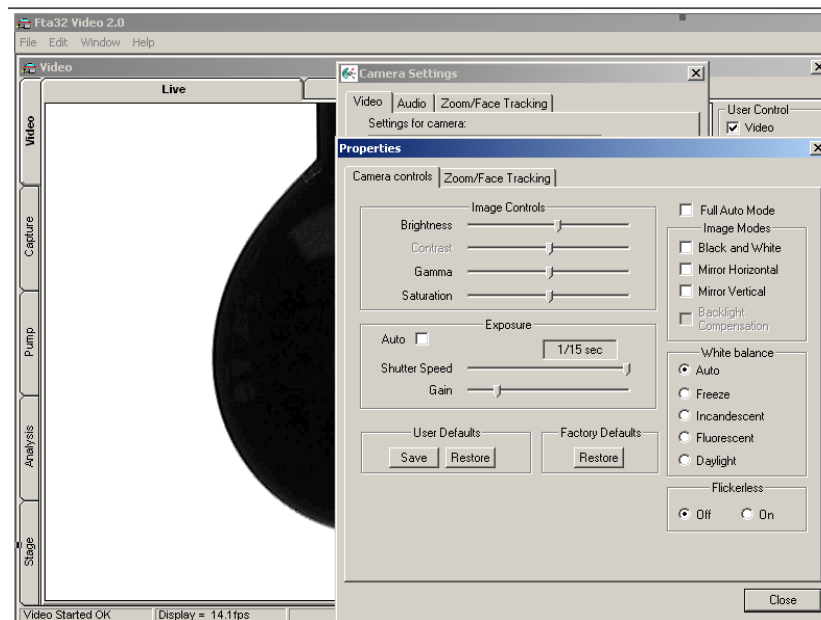
Pendant drop image of water taken with an optimally setup USB 1.1 camera.

The newest driver for the Logitech camera has a small square floating window that allows you to make adjustments in real time while running the Fta32 Video program. This window is labeled QuickCam and has a place to click labeled “more options...”. If your system does not display this, you need a new driver.

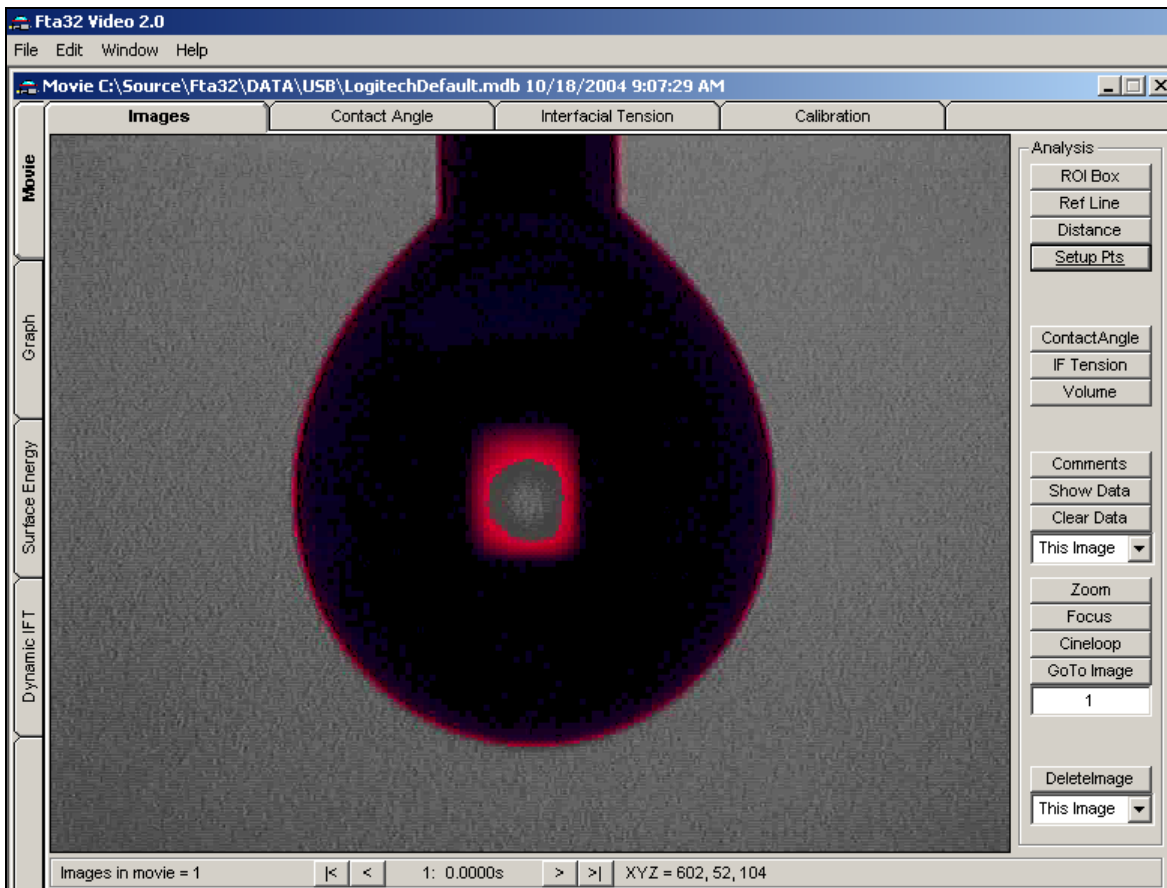


You can download it from the Logitech website, <http://www.logitech.com>, or contact FTA.

1. Click Defaults or Restore Defaults to return to the original factory settings. This will give you a color image. Then...
2. Uncheck the Full Auto box.
3. Check the Black and White box.
4. Uncheck the Auto Exposure box.
5. Set the shutter to the full right which should be 1/15 second. This allows it to gather the most light possible in each image.
6. Move the gamma slider from its  $\frac{3}{4}$  position to  $\frac{1}{2}$  or 50%.
7. Leave all other controls in their default positions. This will include
  - \* brightness at about 60%
  - \* saturation at 50% (does not affect black and white)
  - \* gain in exposure at 20%
8. Click the save user settings button.



The following image is of the same drop with the original default settings. This is what you want it to not look like.



Original default settings image.

File: USB1Images.doc