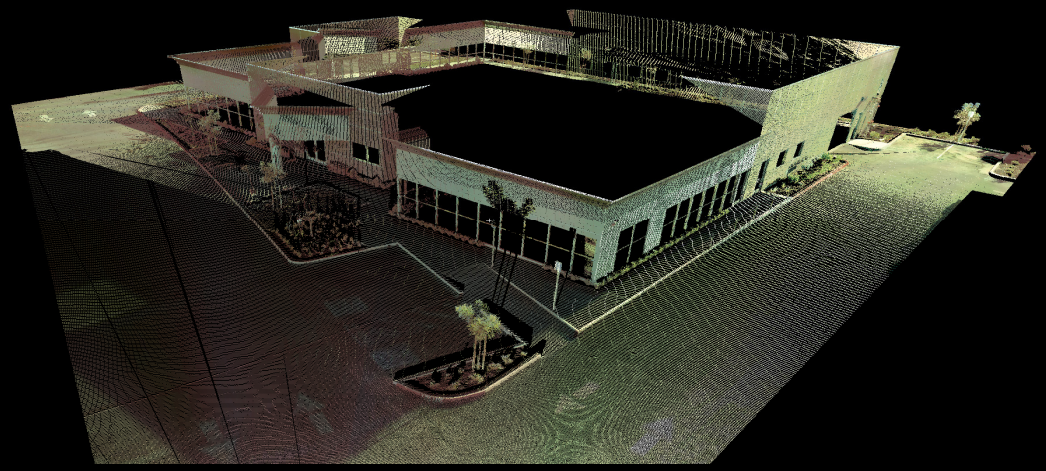
Civil Engineering | Surveying | Landscape Architecture | Environmental Consultants

2009 Leica Geosystems HDS Worldwide User Conference



Team: **Precision Civil Engineering, Inc.**
Location: Fresno, CA
Employees: 35 (HDS 3)
HDS Services: start April 2006
Hard/Software: HDS 3000, 1 seat Cyclone / Cloudworx - scan register model

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high-definition HDS surveying

Precision Engineering Services:
Civil Engineering | Planning | Surveying
Landscape Architecture | Environmental Surveying

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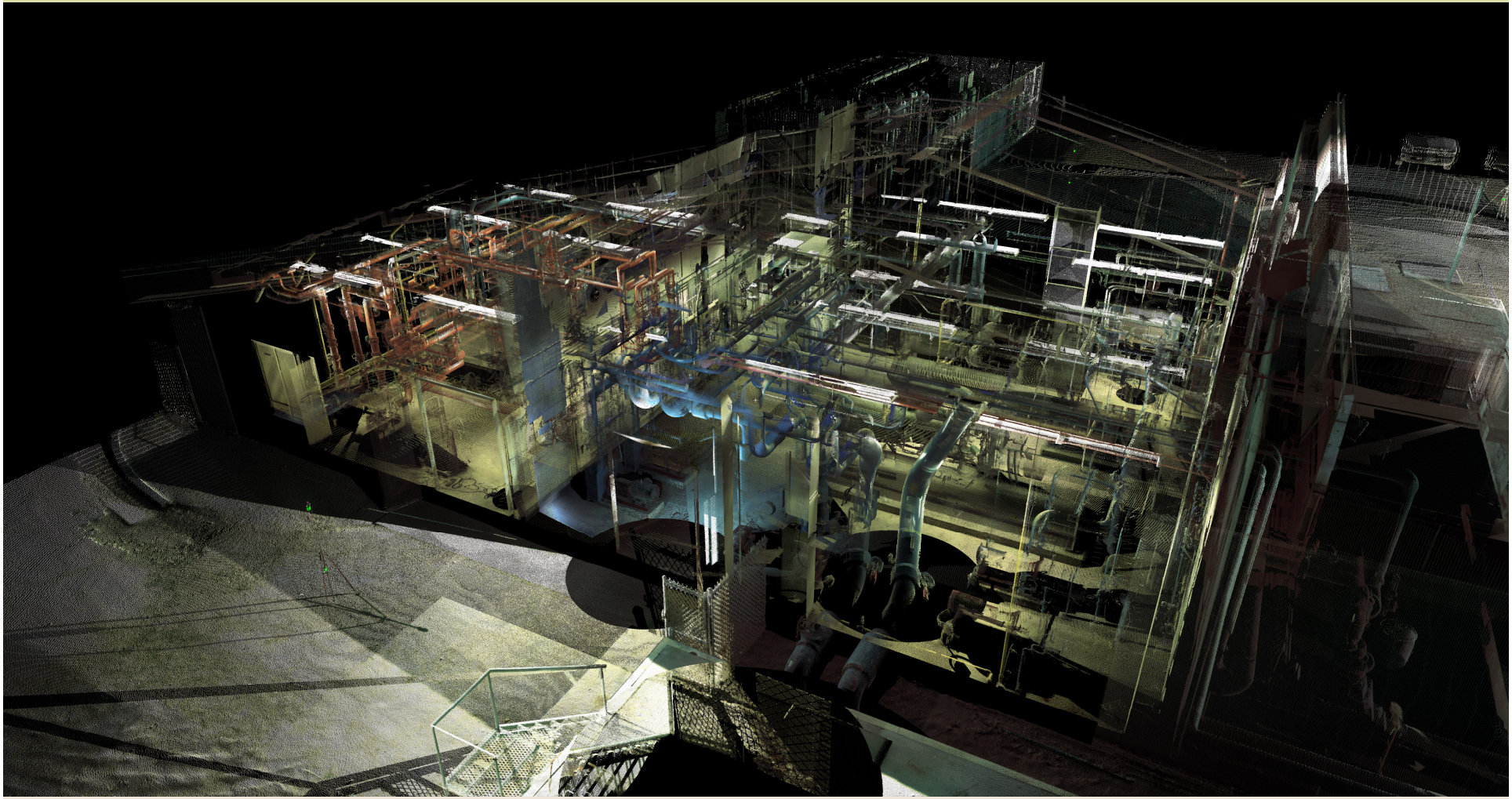
Fly Thru Videos



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What are the Benefits?

- Excellent marketing tool
- Higher quality renderings
- Clear depiction of Scanworld
- Longer videos
- Smaller file sizes

Examples

- Remove “Noise”
- Experiment with displaying data
- Importing CAD data via Cloudworx
- Register multiple projects together
- Register Aerial photography
- Transitions

Fly Thru pre steps

- Two programs are required to make these videos possible in addition to Cyclone
  - (Both programs are FREE)

- **Program 1:** Windows Media Video VCM 9 Encoder (H.264 optional)
- **Program 2:** Virtualdub(video editing/rendering)
- **Program 3 (optional):** Microsoft Movie Maker

Download Windows VCM 9 Encoder

- http://www.microsoft.com /windows/windowsmedia/download/AllDownloads.aspx

- Or Google search : “Windows VCM 9”
  - select first result (windows media video 9 series codecs)

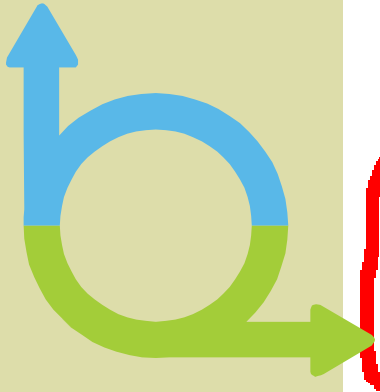
MSVCM 9 Download Page

Download Center

Select Download:

Codecs Installation Packages

- Windows Media Player
- Microsoft Silverlight
- Photo Story 3 for Windows
- Windows Media Bonus Pack
- Windows Media Encoder
- Windows Media Services
- Windows Media SDKs
- Codecs Installation Packages
- Enterprise Downloads
- Third-Party Tools and Software
- Security Updates



Codecs Installation Package for Windows Media Player 6.4

This package is for network administrators who wish to deliver support for the latest Windows Media Audio and Video codecs to their enterprise desktops running Windows Media Player 6.4.

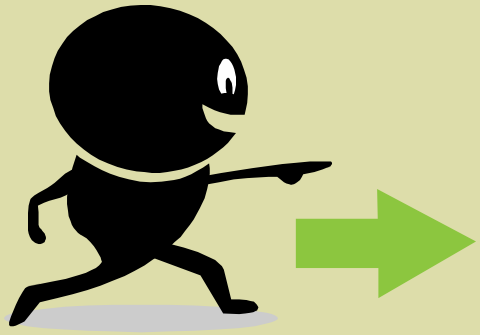
Download Now 1,294 KB 6 min @ 28.8 Kbps

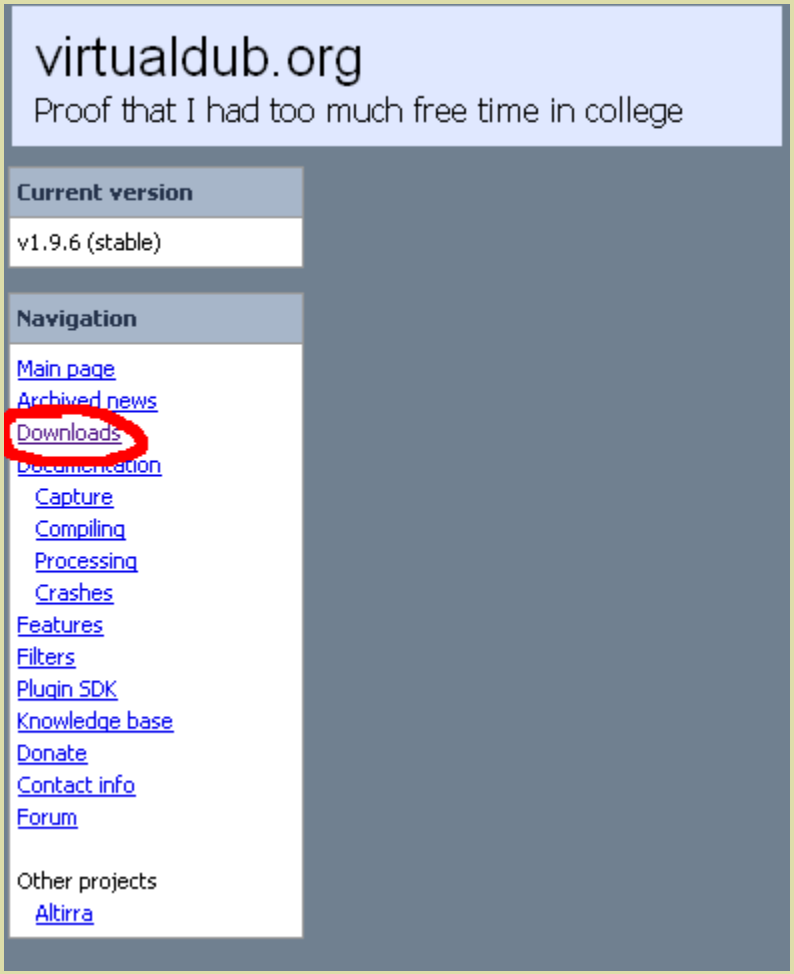
Codecs Installation Package for Windows Media Video 9 VCM

This Video Compression Manager (VCM) based version of the Windows Media Video 9 encoder/decoder will enable legacy encoding and editing applications to support the Windows Media Video 9 codec in file containers such as AVI.

Download Now 638 KB 3 min @ 28.8 Kbps

Download Virtualdub



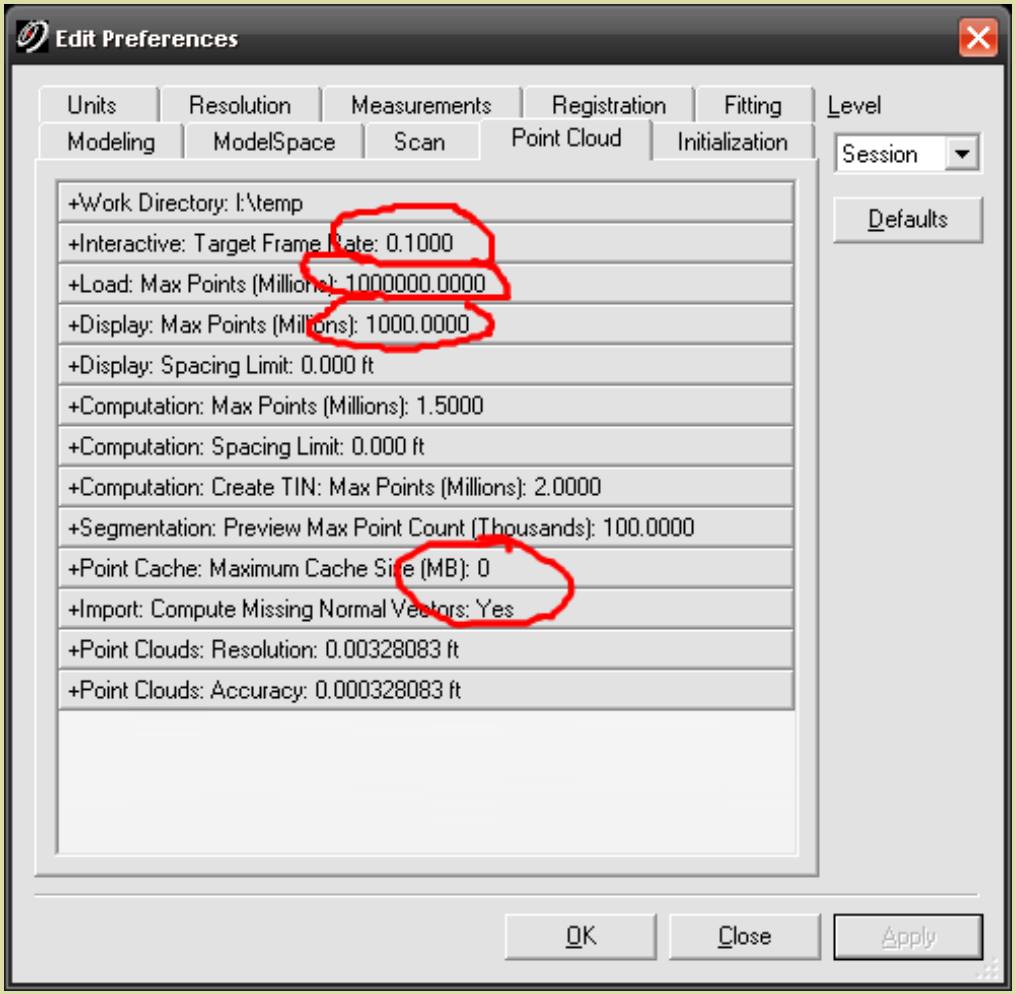


- http://www.virtualdub.org

Render Prepping

Modify Cyclone modelspace preferences for highest quality output

Tip: modify temp folder to separate drive (great for unification)



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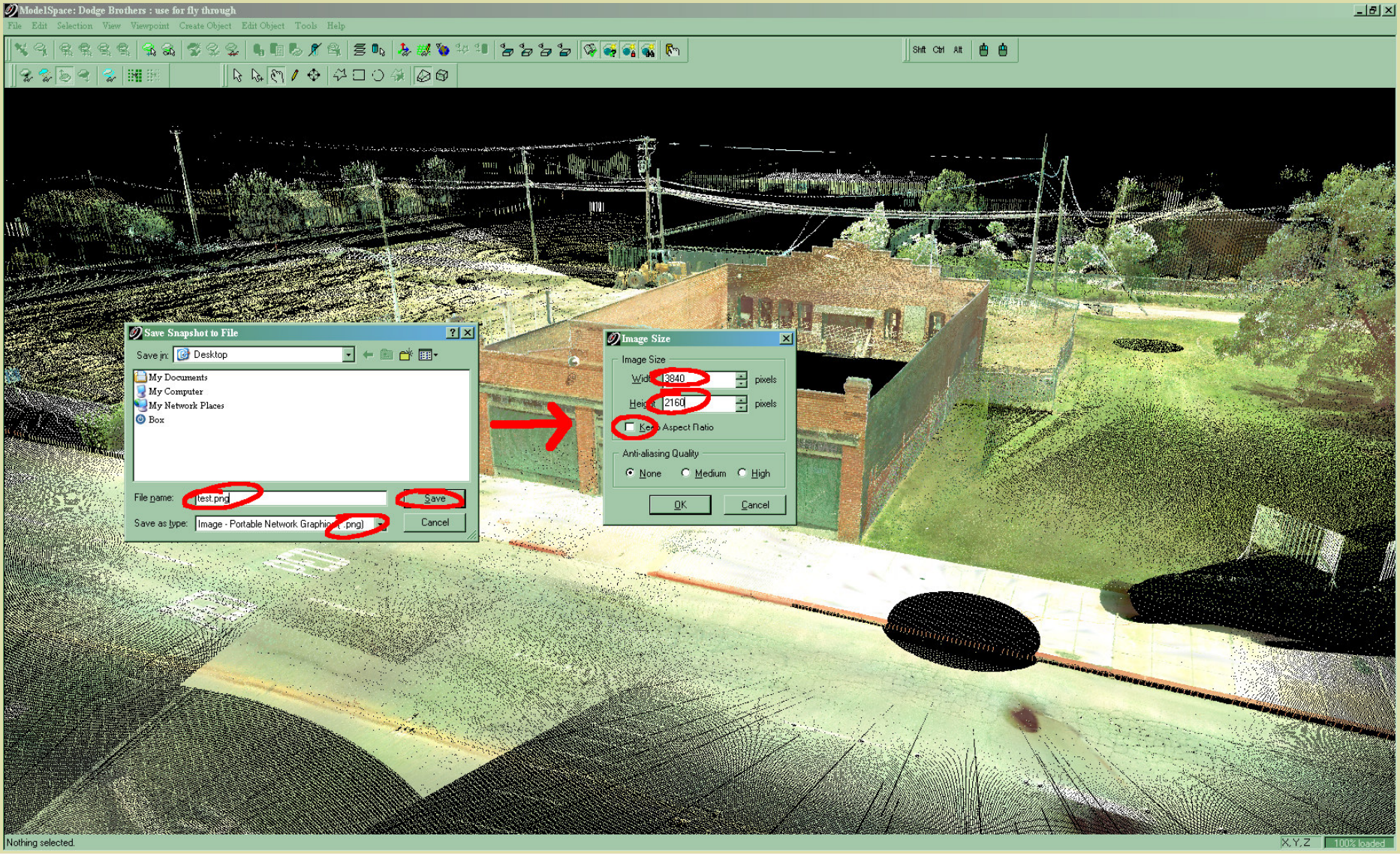
Create a test image



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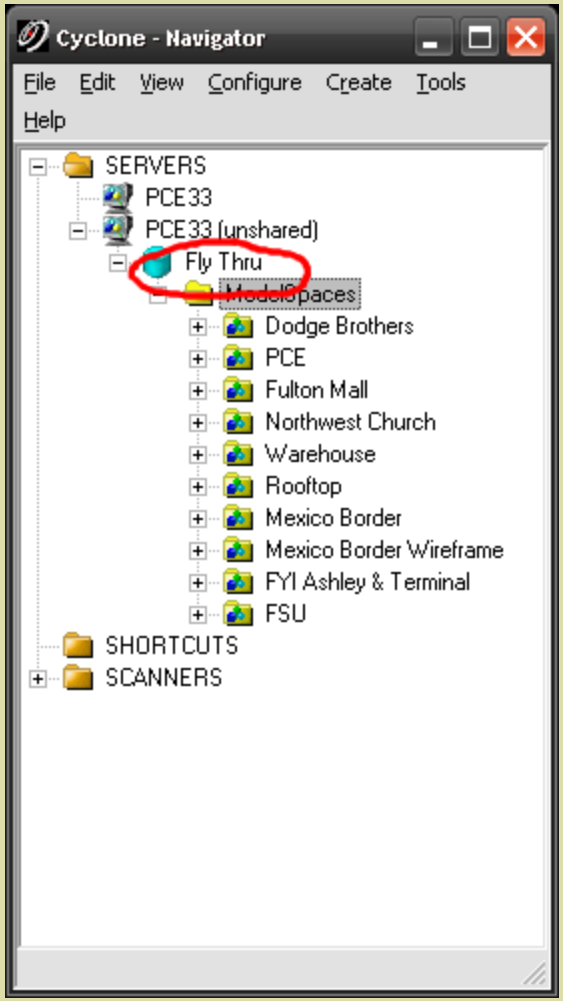
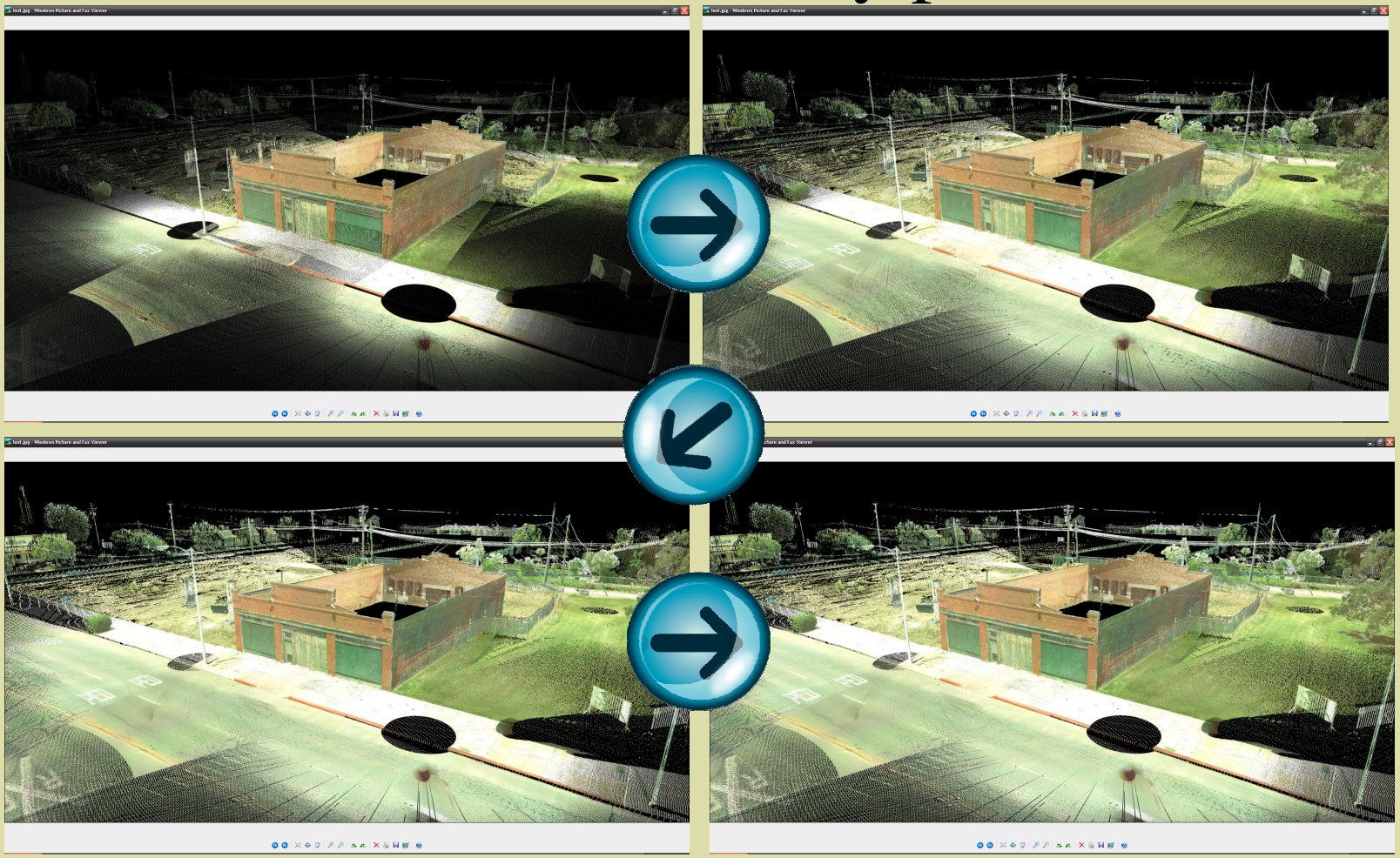
Create a separate database file for Fly Thrus

(this allows for safe unification of pointclouds)



Determine best result by point width



Chowchilla Fly Thru

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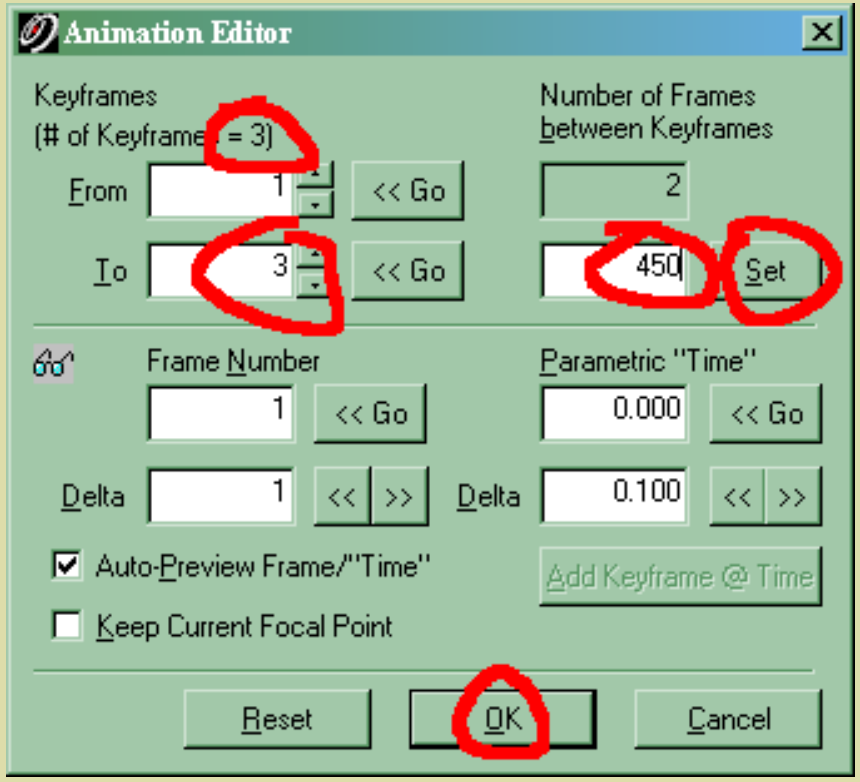
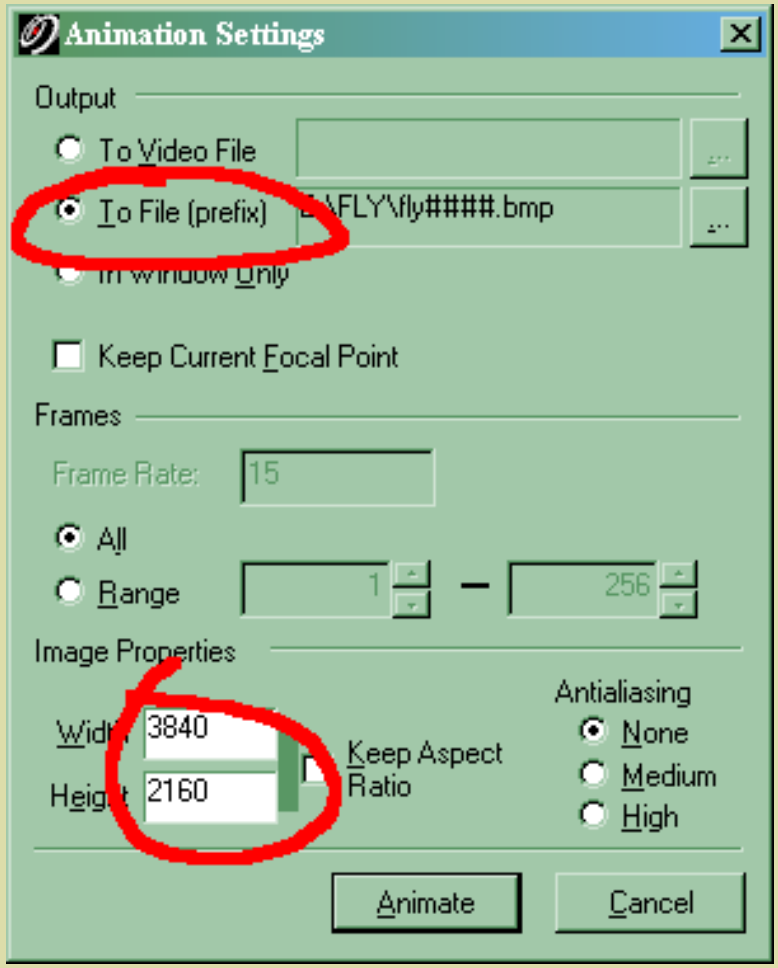
Setting up the Cyclone Fly Thru Parameters





Note:

BMP 25MB lossless (great for models)

JPG <2MB lossy (great for pointlcouds)

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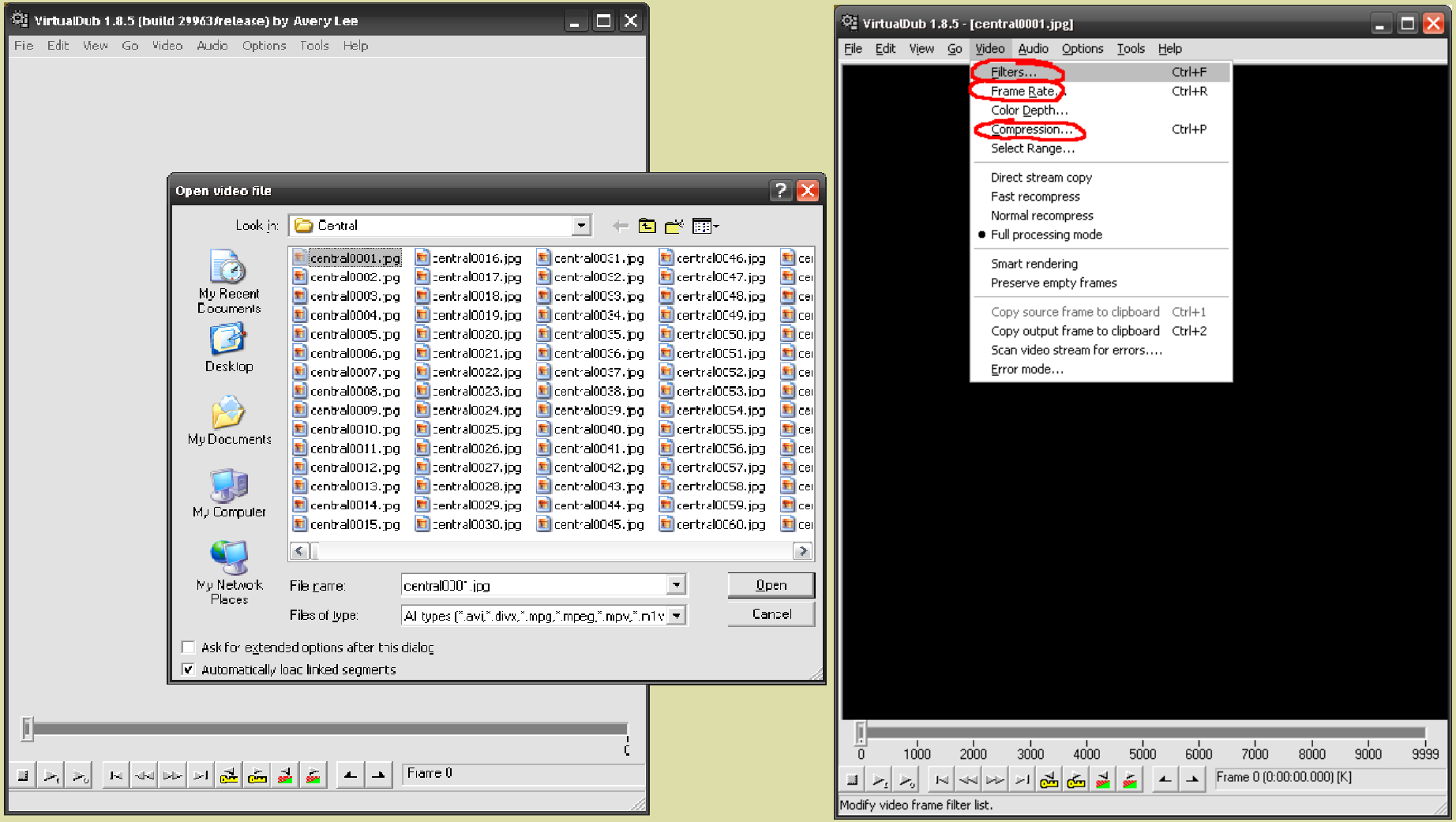
Proceed to render using Virtualdub



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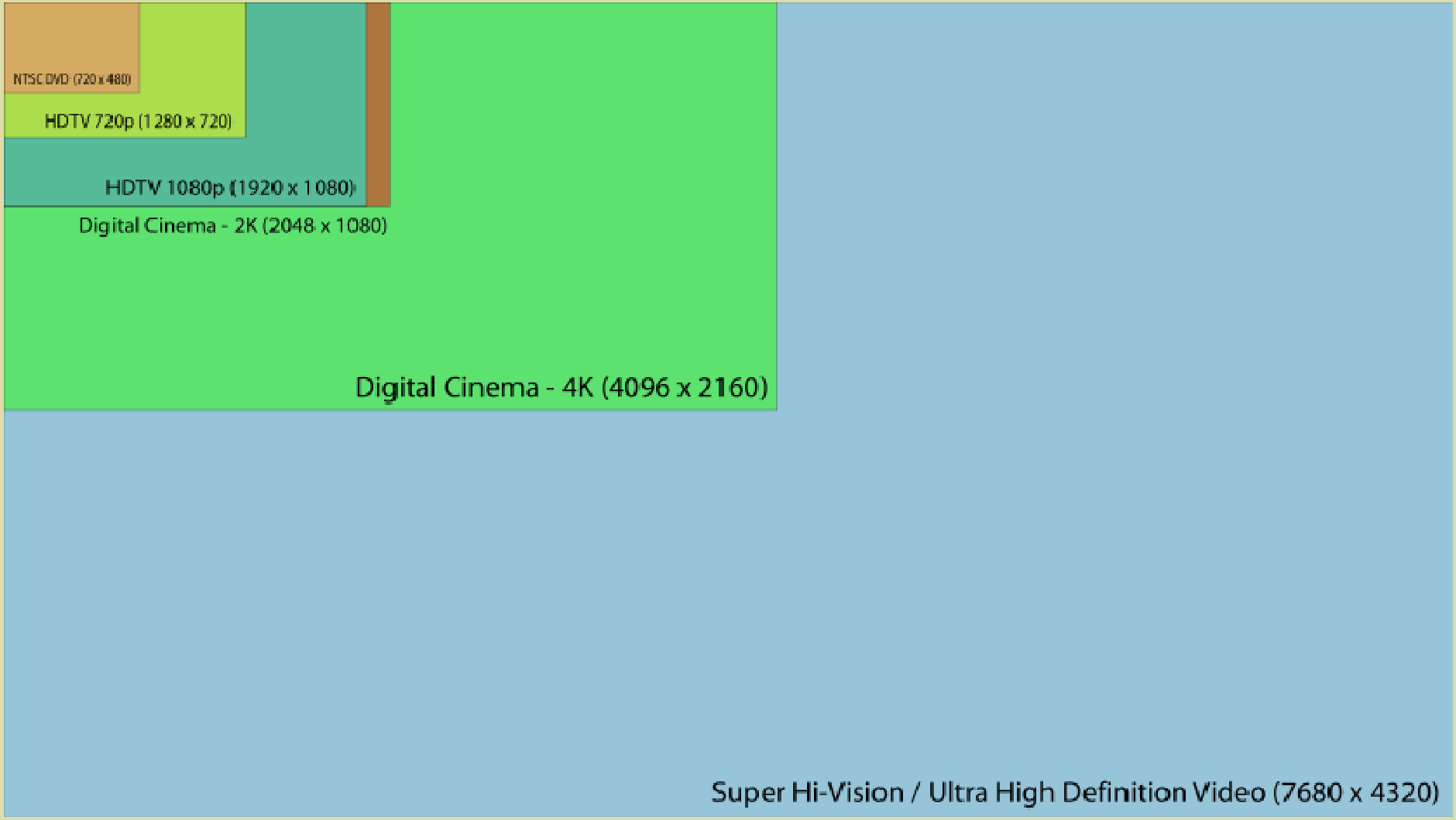
Display Resolutions



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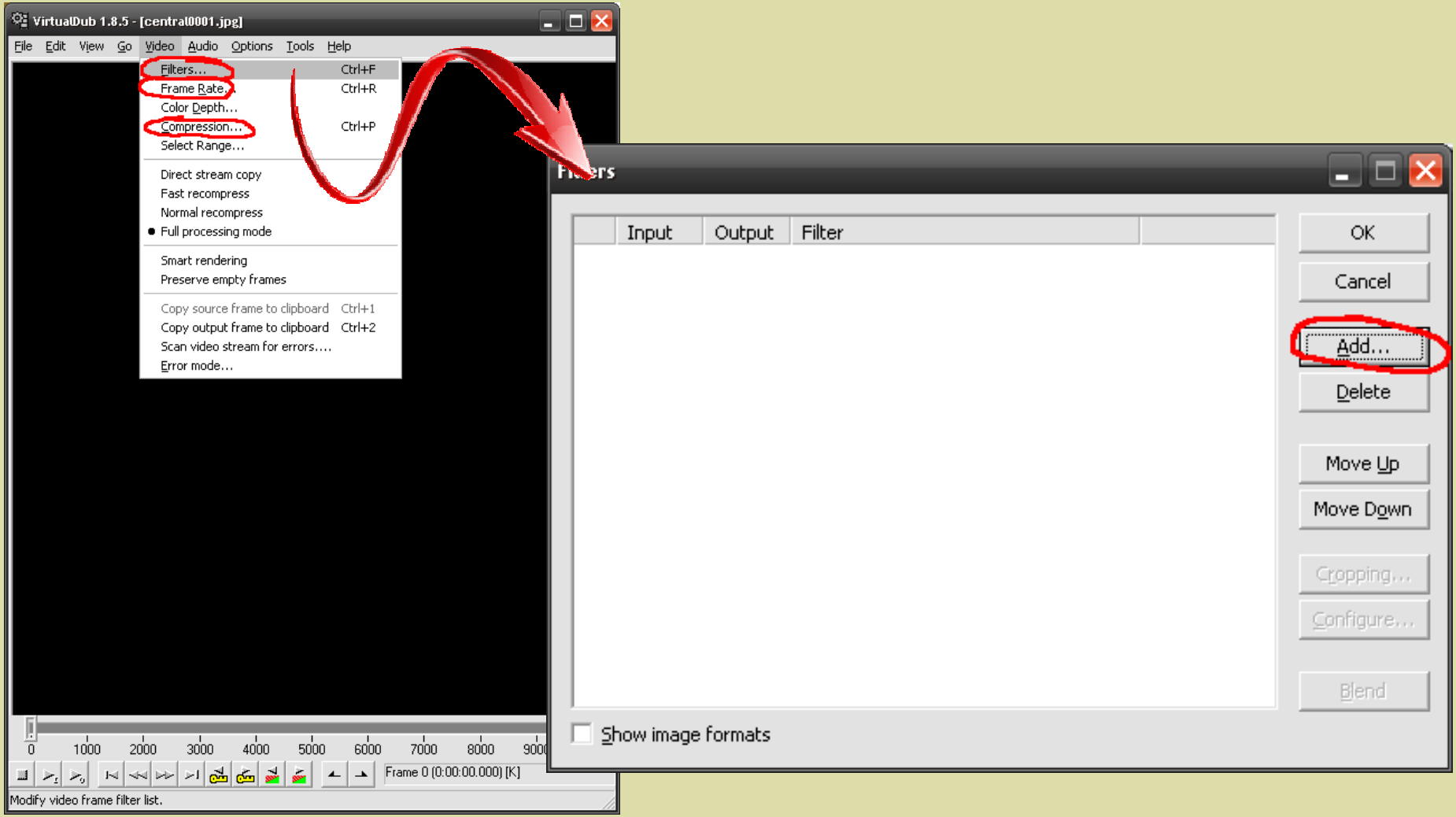
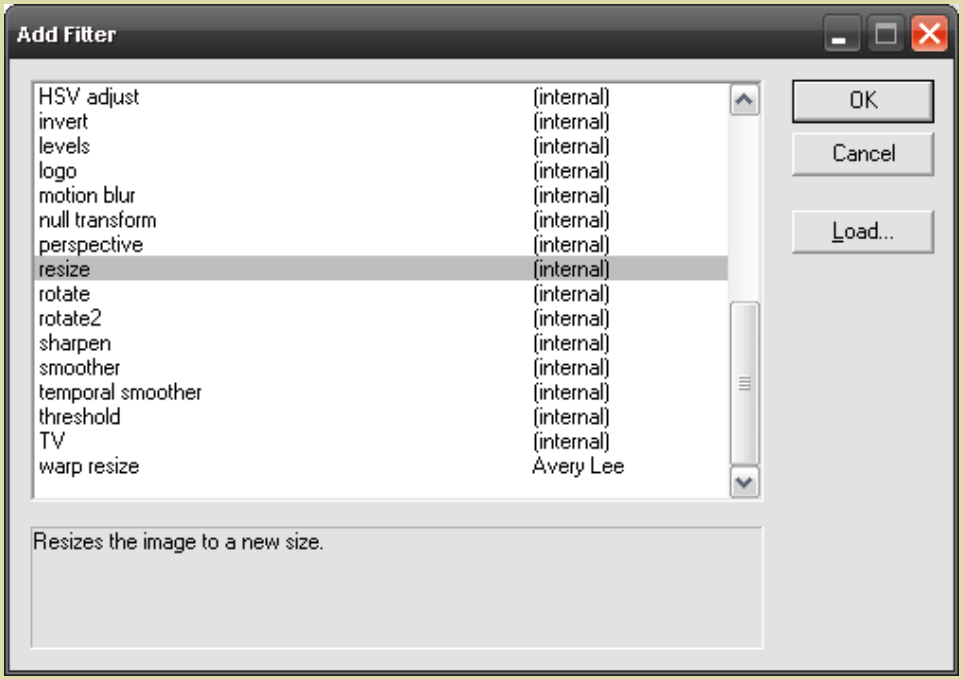
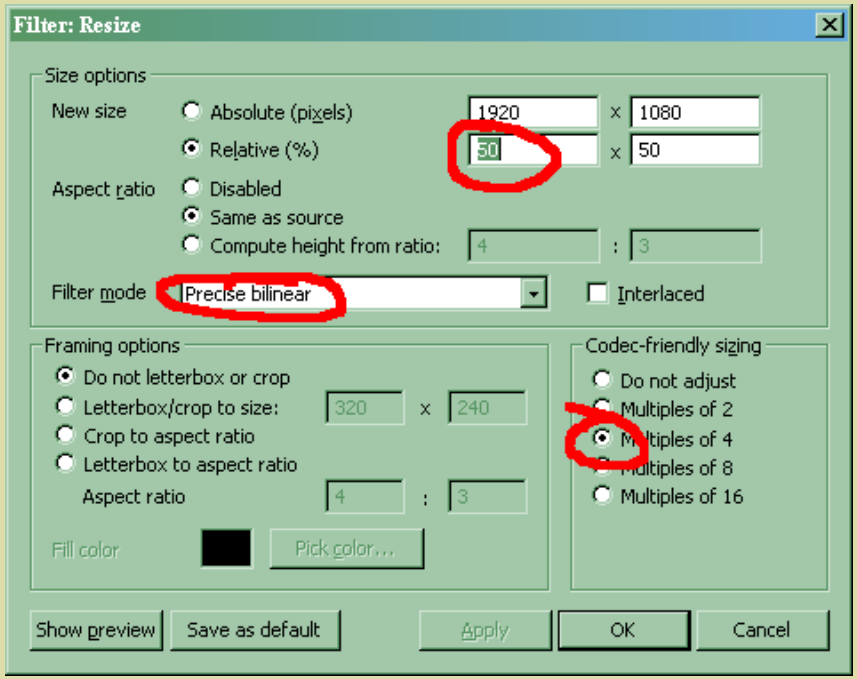
Apply Filter(s)



Apply Resize Filter





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Resolution : File size

Keep in mind that the resolution has a big impact on the file size which is important when publishing to a website or Youtube

Fulton Mall Fly Thru: 02:36.00

FULL HD
1920x1080 299.87 MB

COMMONLY USED HIGH DEFINITION
1280x720 96.58 MB

STANDARD DEFINITION
640x480 41.94MB (web streaming)

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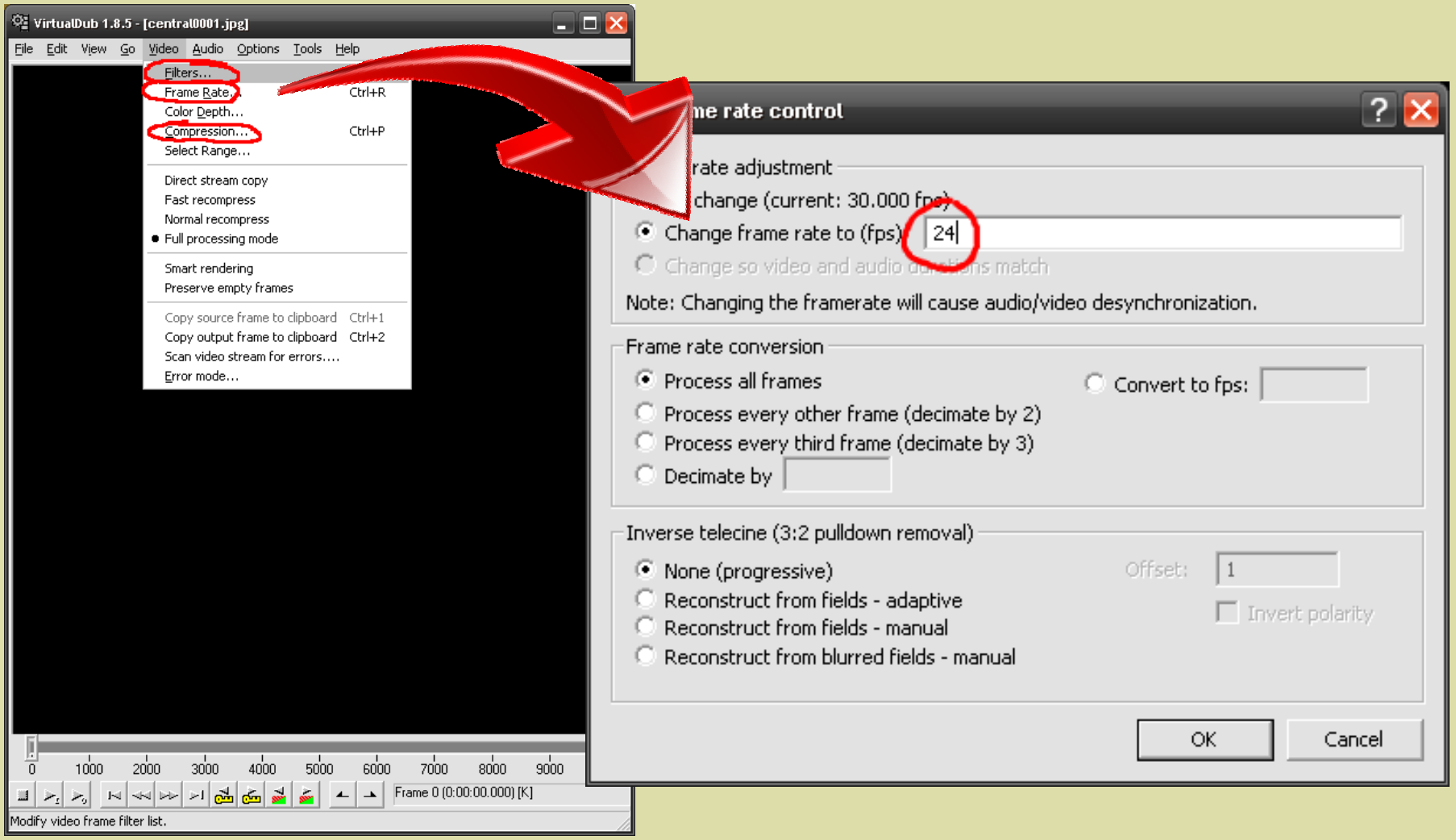
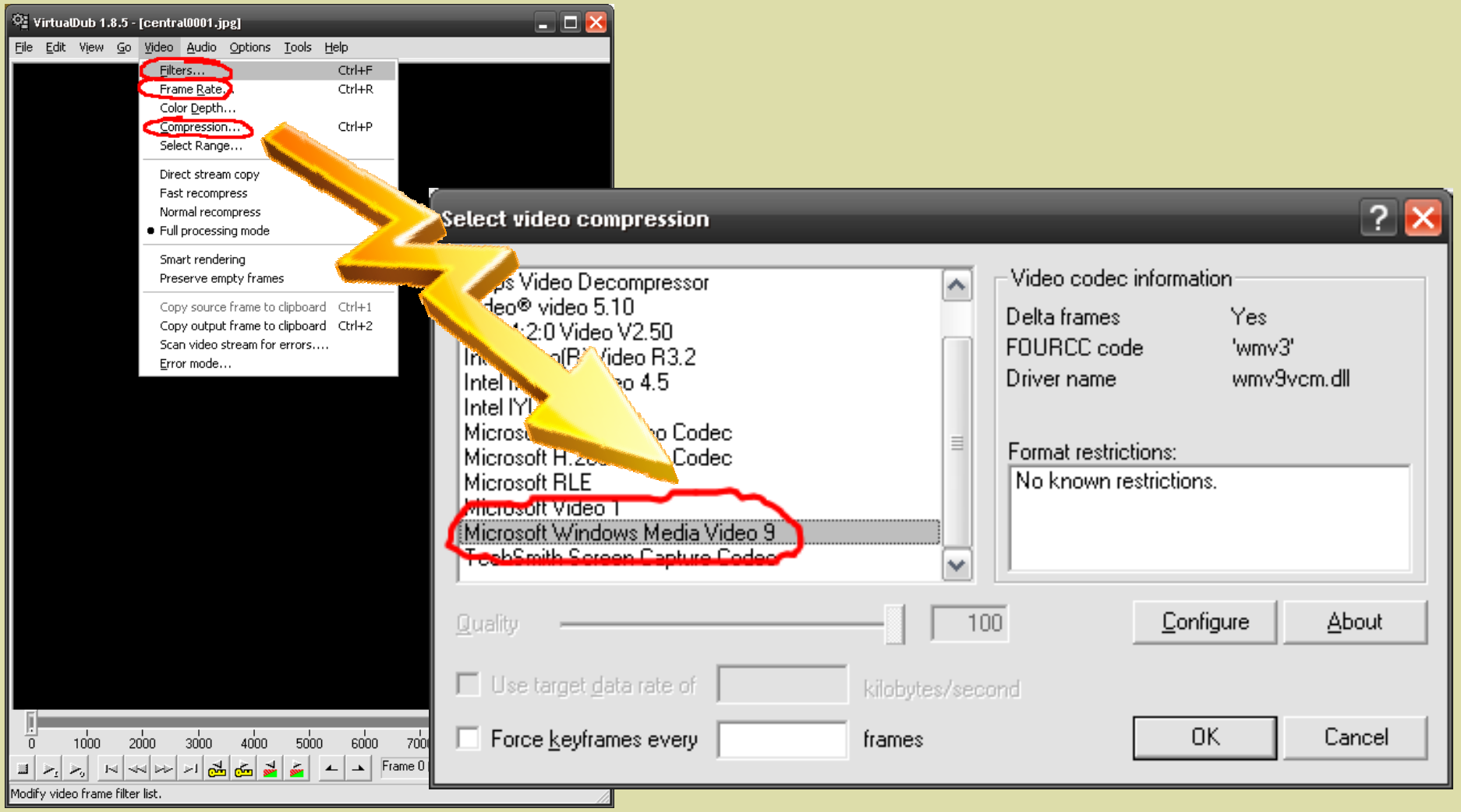
Apply Frame Rate



Apply WVCM 9 Encoder



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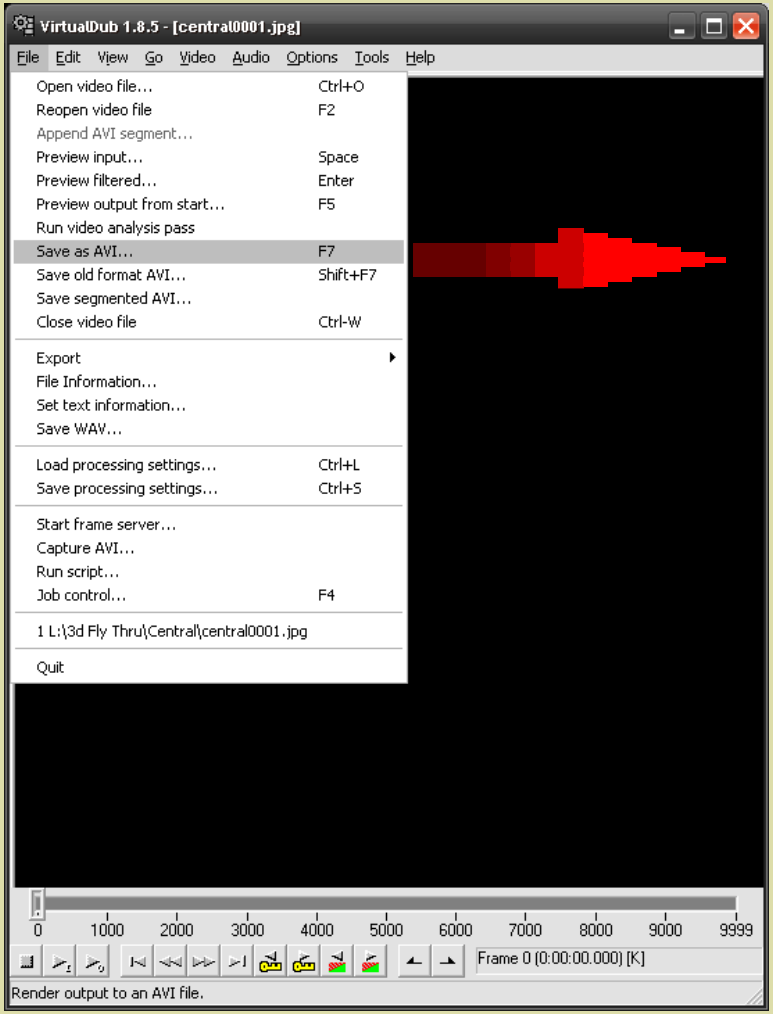
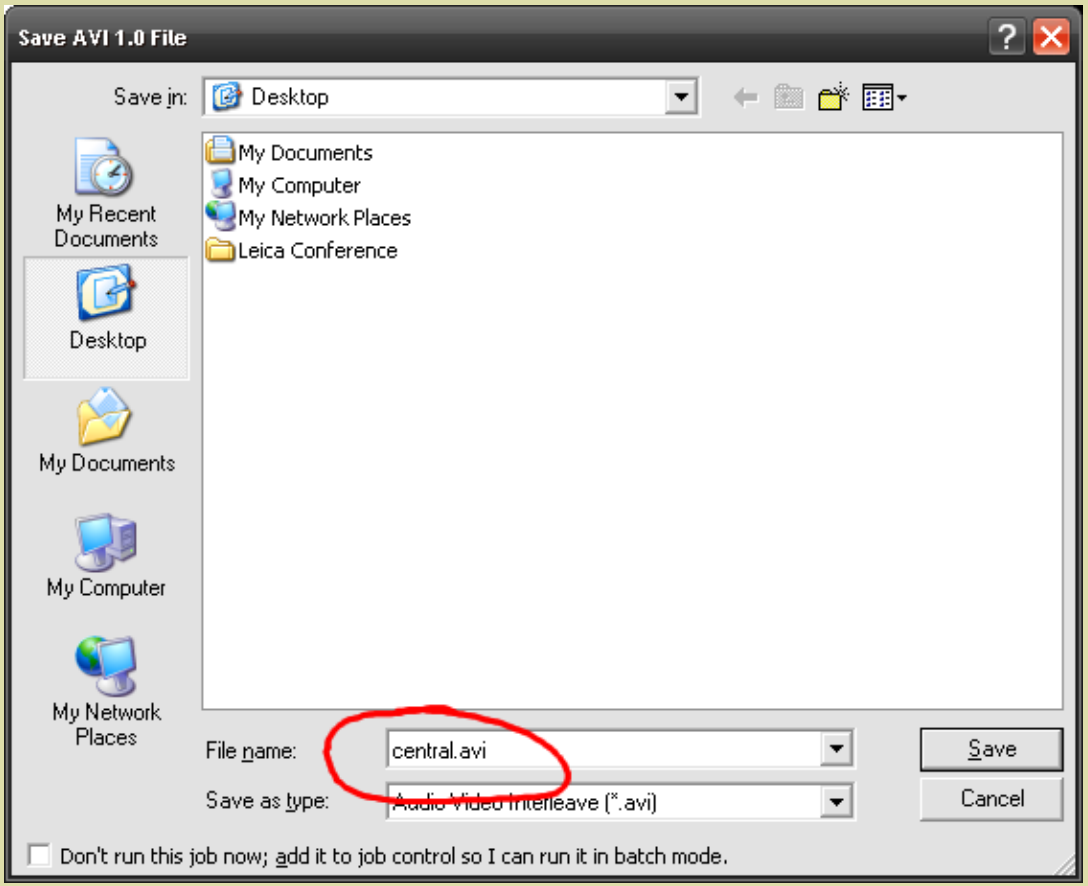
Render / Save Video





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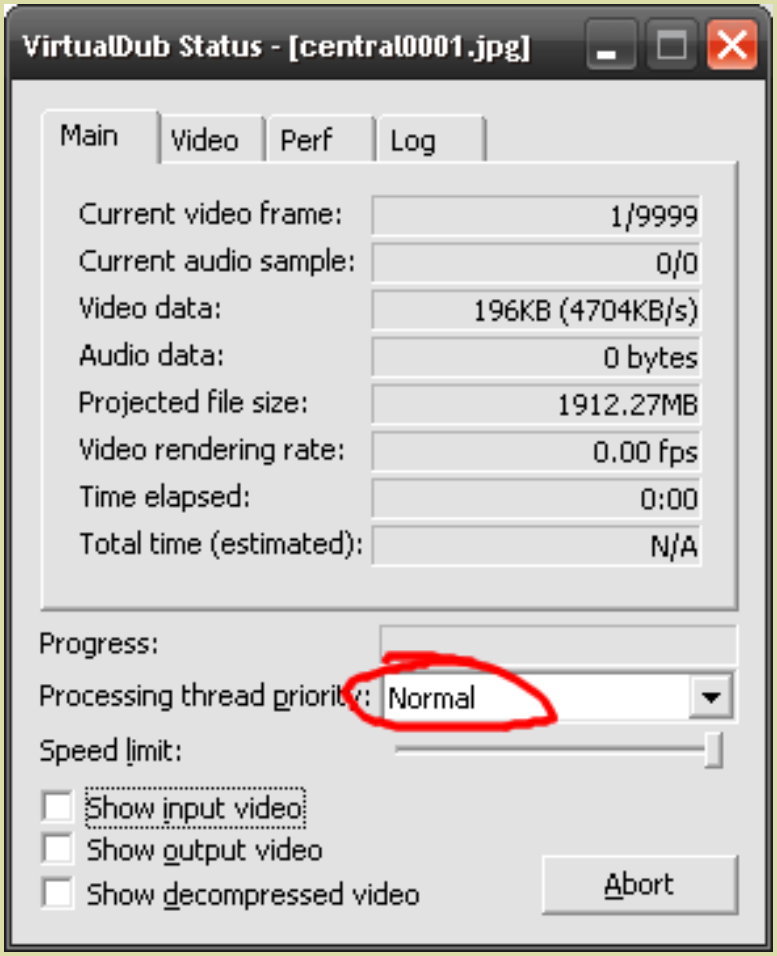

Once Virtualdub completes render, the file is ready for viewing

Note: Transitions could be added via Microsoft Movie Maker by combining an existing point cloud rendering with a proposed rendering

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THE END

Questions / Comments

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