TMPGEnc 4.0 XPress

ティーエムペグエンク4.0 エクスプレス

TMPGEnc Xpress 4.0 CUDA Version Benchmark Guide

Pegasys Inc. (Japan)

TMPG Inc. (US)



2008.11.07

POWERED BY NVIDIA

PEGASYS

TMPG Inc. - Company Overview

- Pegasys started business in Saitama, Japan in 2001, and now moved to Tokyo in 2002. TMPG Inc., a subsidiary of Pegasys started business in the US in 2003. The first commercial product was called "TMPGEnc Plus." The US office is located in Gardena, California.

- TMPGEnc (formerly known as Tsunami MPEG Encoder) is an MPEG encoder with some basic video editing capabilities. It runs on Microsoft Windows. The free version has a 30-day time limit on MPEG-2 encoding capability. MPEG-1 encoding is free. There is also a commercial version with no limitations, called TMPGEnc Plus.

- TMPGEnc consistently ranks near the top in quality comparisons, and many professionals love it for the control it gives over almost every single aspect of MPEG encoding. Intel has always used TMPGEnc's encoders to demostrate the peformance of new CPUs I their review guides.

- The two of TMPGEnc's most popular products are TMPGEnc Xpress 4.0, with the capability of importing almost all the file formats, and TMPGEnc DVD Author 3 with DivX Authoring, a DVD authoring program. They just recently announced TMPGEnc Authoring Works 4, which allows you to edit videos and movies stored on Blu-ray discs.

- TMPG Inc. highly appreciate the potential of the raw power of a GPU and worked on a CUDA implementation of its filters to accelerate these demanding and time lasting tasks by a high factor, resulting in a much better end user experience thanks to NVIDIA's CUDA technology.

PEGASYS

CUDA Version

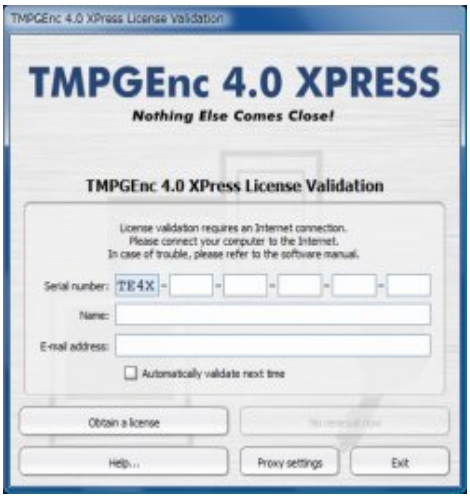
- This v4.6.2.266 update now supports CUDA acceleration for video filters like Noise Reduction, Image Sharpening and and color correction that reduce rendering time by up to 400%!

- In the preference settings, you can enable or disable the CUDA (GPU) acceleration.

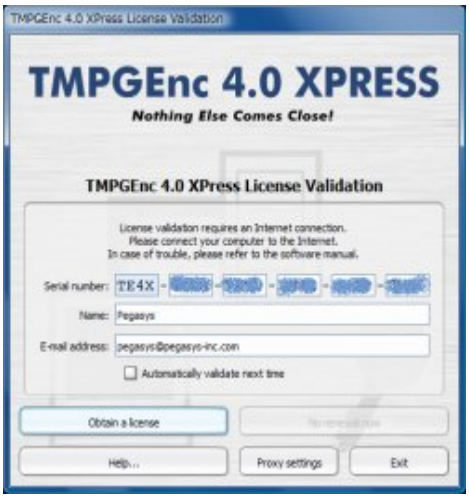
- Note: The encoding process in this version is NOT accelerated; it is still done by CPU.

PEGASYS

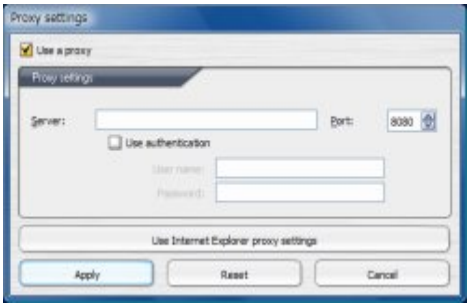
TMPGEnc 4.0 Xpress
1. License Validation Process



1.When you start TMPGEnc 4.0 Xpress you will see the registration screen.



1. Input your serial number.
2. Input your name and e-mail address.
3. Click the Obtain a License button.



1.If you use the proxy, input proxy settings.

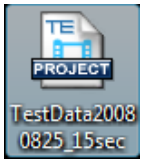


License is validated.

After the license validation, close the application in order to start with the sample project file.

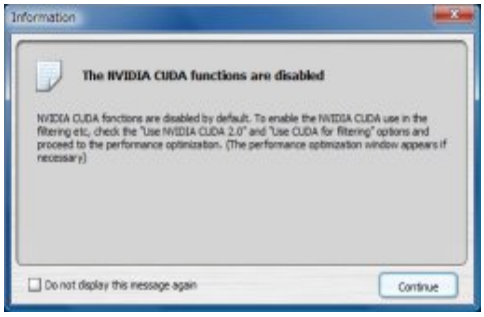
PEGASYS

2. Use the project file



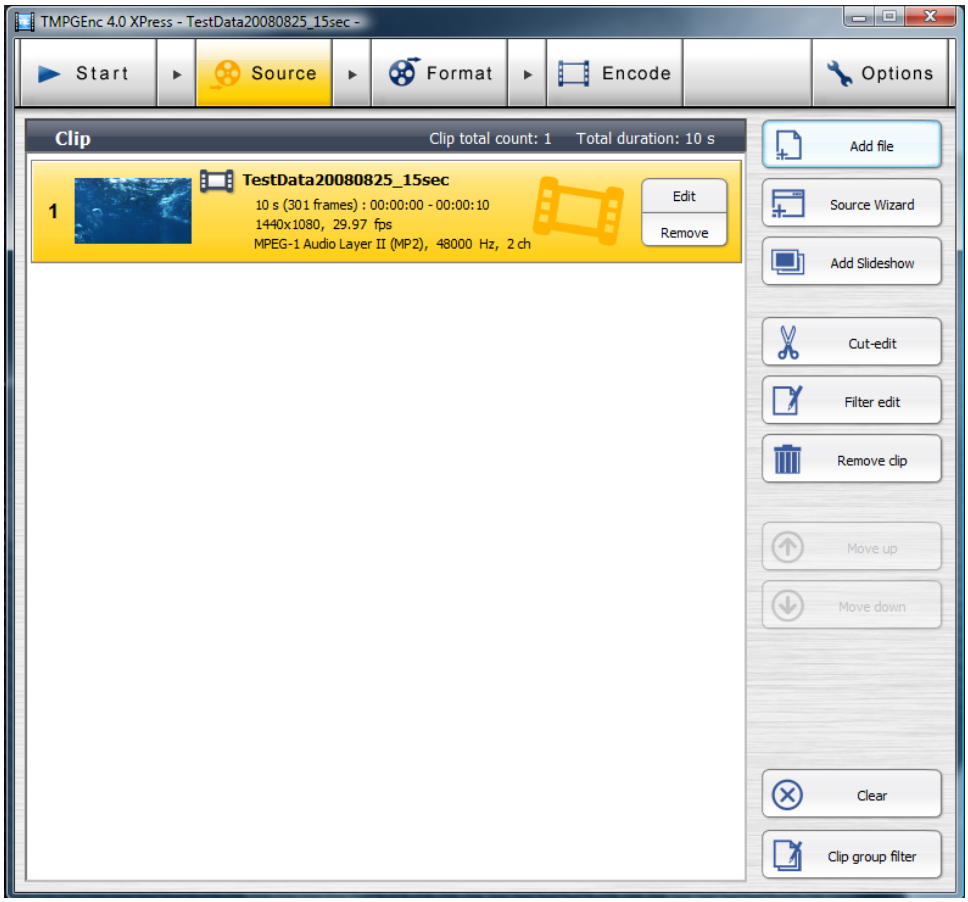
1. Move TestData20080825_15sec.mpg and TestData20080825_15sec.txp4 to your desktop.
2. Double click on TestData20080825_15sec.txp4 (project file)" to load the sample project
3. Browsing to the videoclip that has been copied to the desktop

3. "CUDA functions are disabled" warning



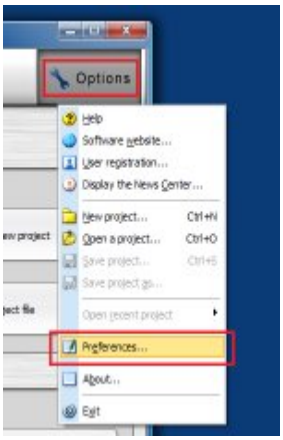
1. This screen shows up if the CUDA acceleration is disable. Click the "Continue" button and the following Clip window shows up.

2. Click the "Continue" button and the following Clip window shows up.

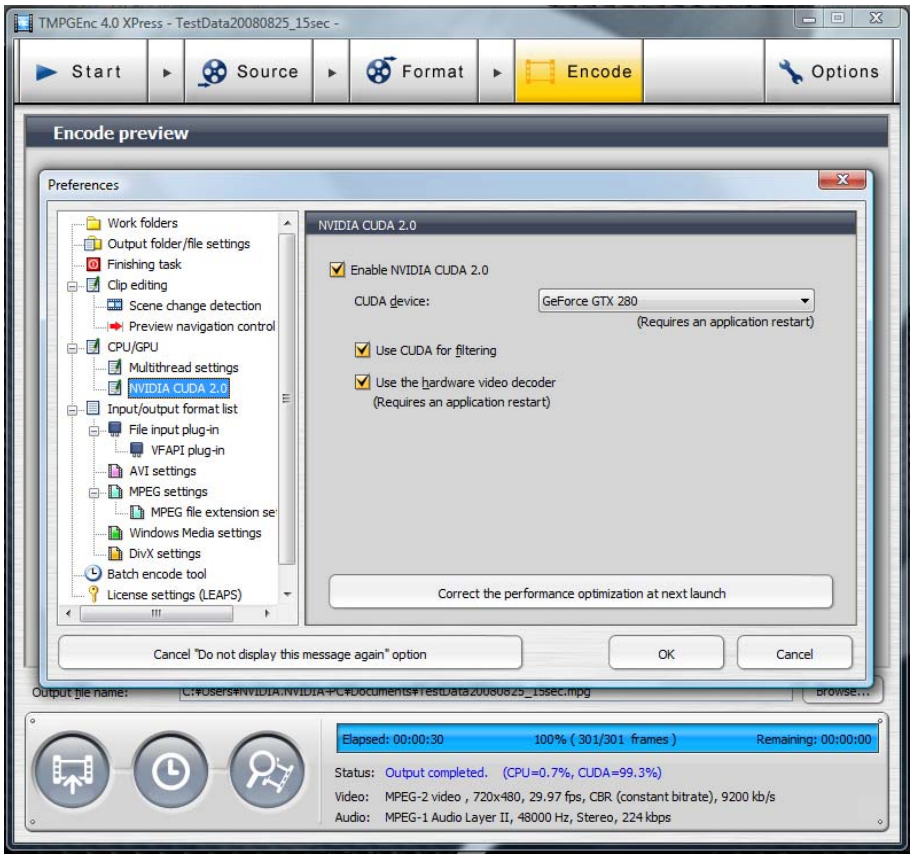


PEGASYS

4. Enable “CUDA 2.0 option”

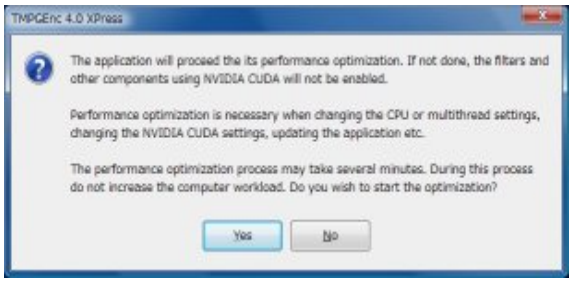


1.Click the Option button, and select Preferences. (Hardware video decoder is currently only available for MPEG-1/2 formats.)



1. You will see the CPU/GPU acceleration options. Click “NVIDIA CUDA 2.0.”
2. Check the "Enable NVIDIA CUDA 2.0" "Use CUDA for filtering“ and "Use the hardware video decoder“
Note: the decode acceleration benefits can only be experienced on middle or low CPUs.

5. Performance Optimization



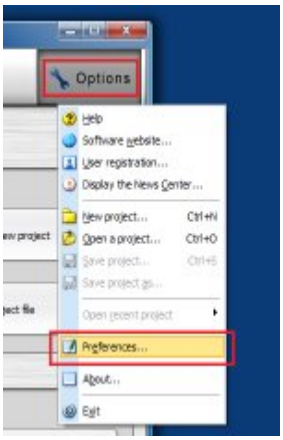
1. When you enable the CUDA option and click OK, the performance optimization windows pops up. Click “Yes” and then the performance optimization starts.



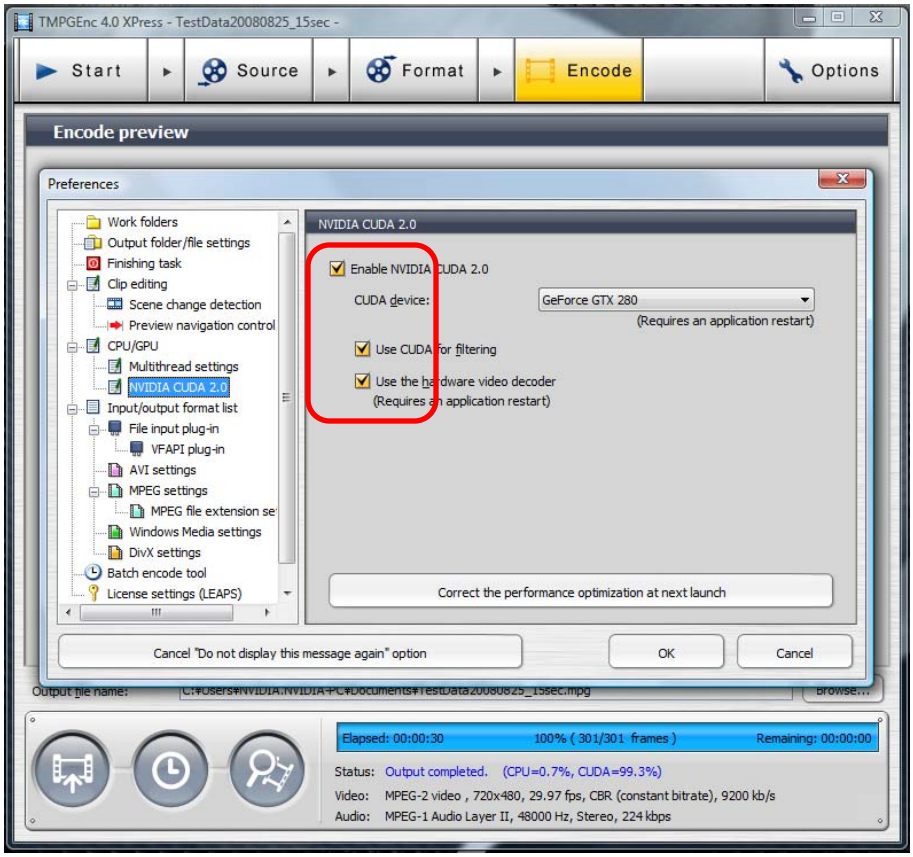
2. Performance optimization is finished when it shows 100%.

PEGASYS

6. Disable “CUDA 2.0 option”



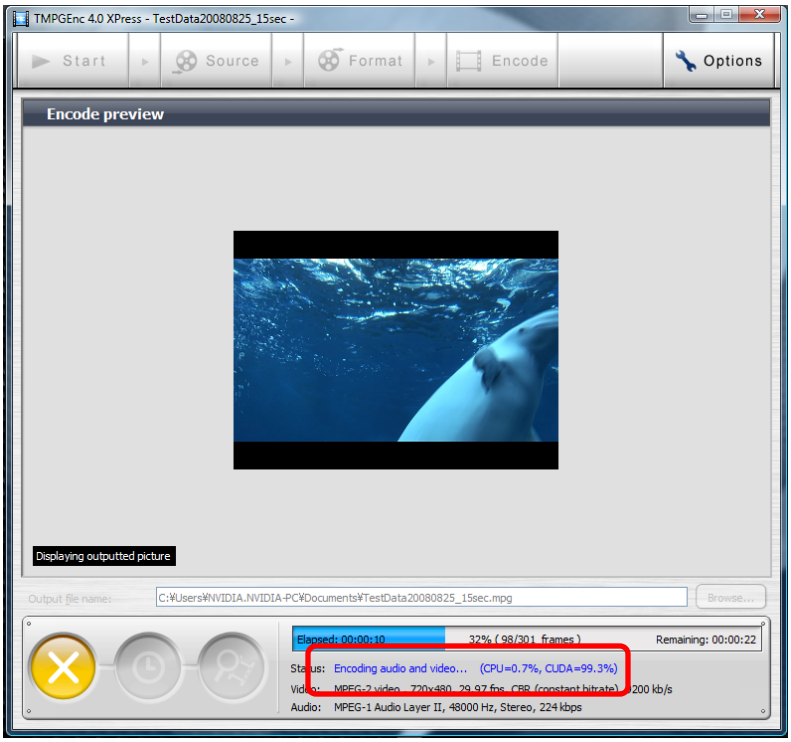
1.Click the Option button, and select Preferences.

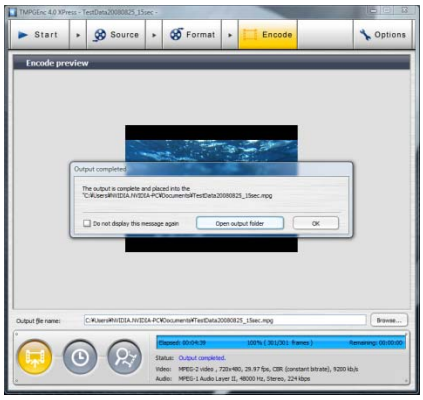


1. Remove all the marks on the check boxes when you encode a video clip only with CPU.

PEGASYS

5. Filtering Process





1.It is finished when the encoding process reaches 100%.

1. Click on 'Encode' tab and the 'Start Encode' button' to start the project
2. During the encoding process, it shows the utilization rate of CPU and CUDA.

A typical result is 30 seconds with CUDA and 4min 41 seconds without CUDA on this sample project. Achieved 930% performance improvement with CUDA.

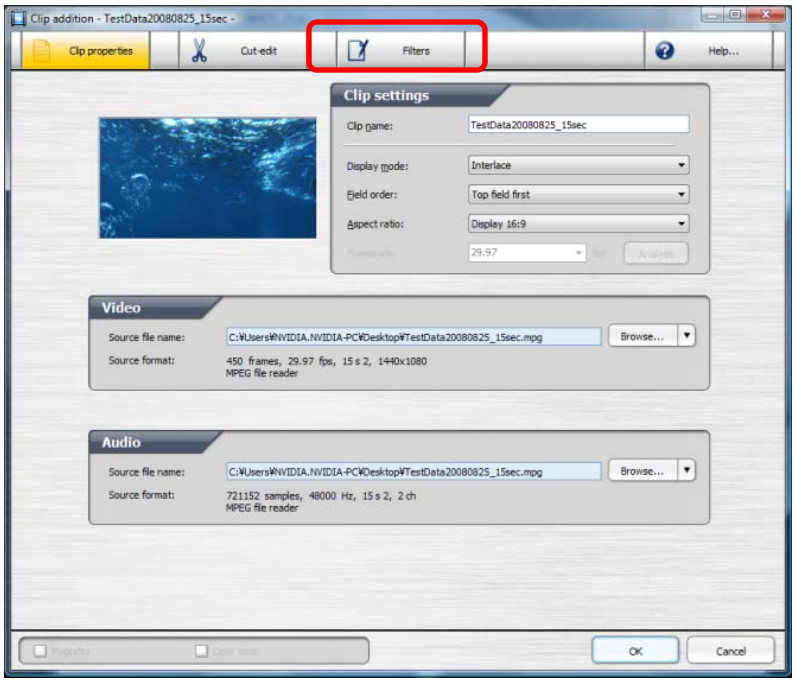
Testing system configuration:
GPU: GeForce GTX 280
Display Driver: 177.84
CPU: Intel Core2 Quad 6700, 2.66Hz.
Memory: 2GB
OS: Windows Vista Enterprise
Sample video file: 1440 x 1080(15 sec), Mpeg2
Filters: Noise Reduction, Color Correction, Smart Sharpness, Sharpness, and Volume Adjustment are enabled in the project file.

Note:
1. If you run other applications at the same time, the the encoding performance decreases.
2. You cannot not change the display size while you are running the application.

PEGASYS

Use your own video files

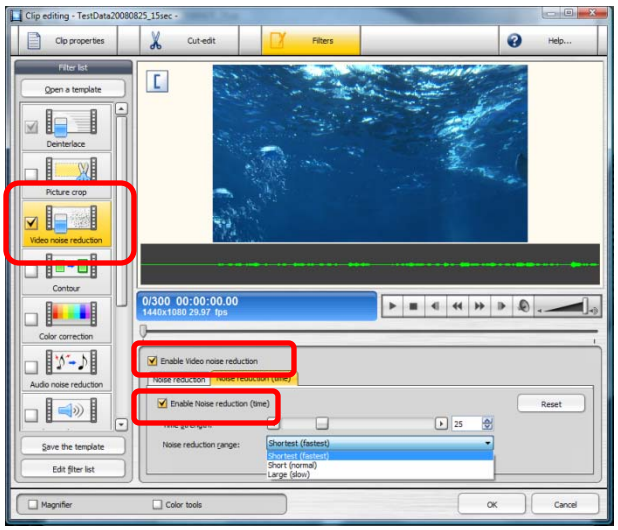
Add video files



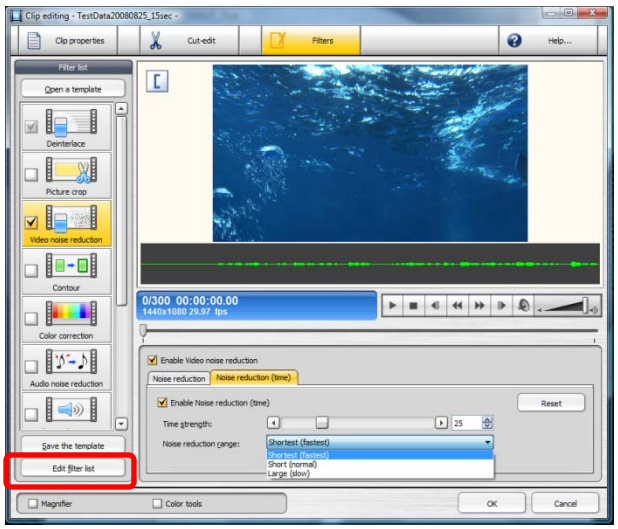
1. When a video file is added, the Clip Property appears.

2. Then click the "Filters", it shows Filter setting window.

Add individual filters



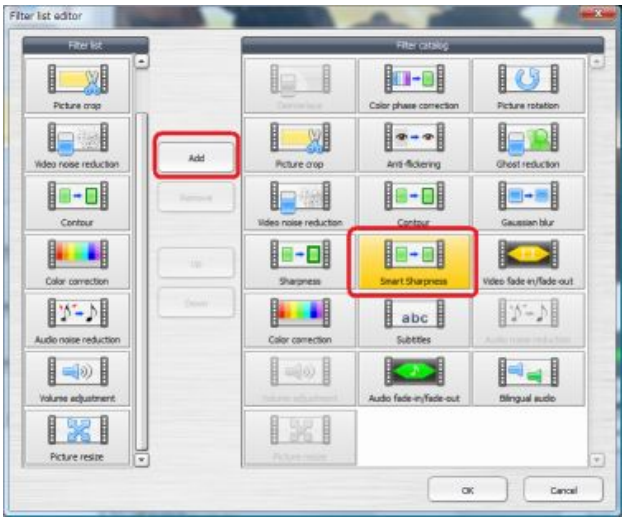
1. Check one or more filters for the CUDA acceleration.
2. Also, make sure to enable “Video noise reduction” and “Noise reduction (time)."



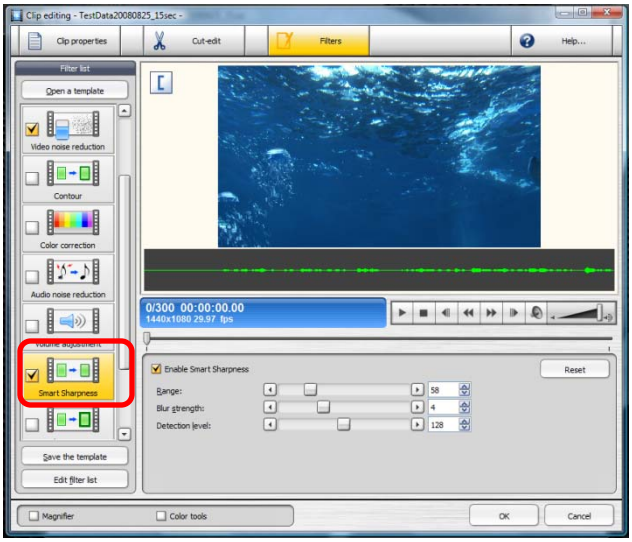
1. Click the "Edit filter list" and then choose the "Filter Catalog", you can find other types of filters.

PEGASYS

Filter Catalogues

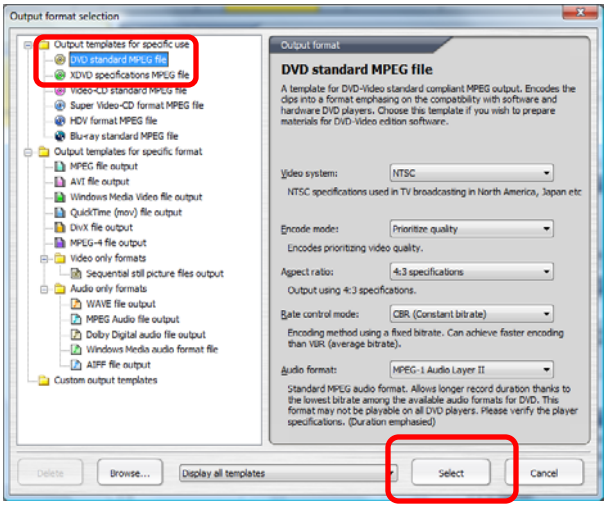


1. Select filters for heavier load on GPU such as Smart Sharpness, and then click "Add" button.

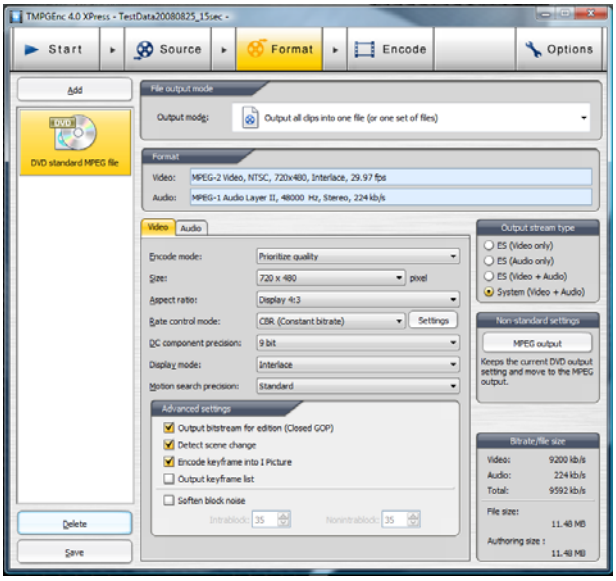


1. Make sure to see a check on the filter.
2. Click "OK“ button when you finish the filter setting option.

Output format selection



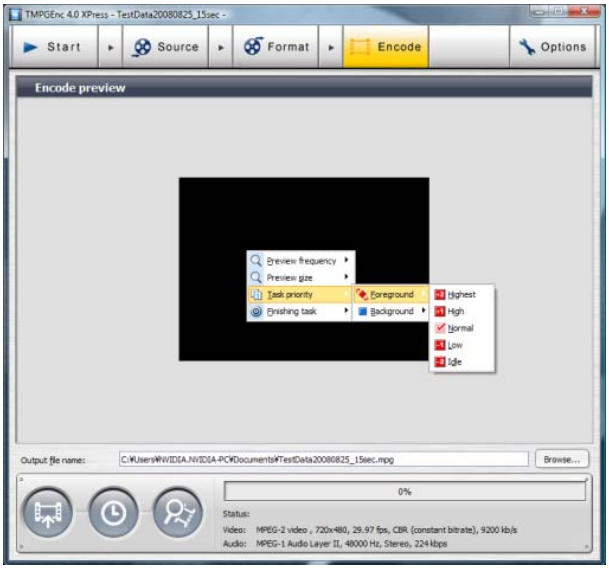
1. Select such as DVD Standard MPEG file and go to next.



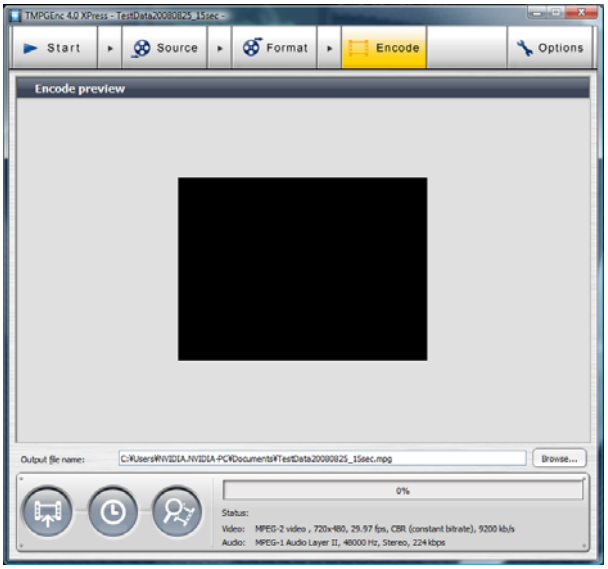
1. Use the default settings on this screen, but change only if necessary.
2. Click the "Encode“ button when it’s done.

PEGASYS

Task Priority



1. If you right click on this screen, you can change the Task Priority. Here, Normal is the default settings.



1. Make sure of the location of output file and its name, and then click the "Start Encode“ button.

PEGASYS

Contact Info

Zakk Saito
Global Sales Division
Pegasys Inc. www.pegasys-inc.com
TMPG Inc. www.tmpg-inc.com
Tel +81-3-5624-1901 FAX +81-3-5669-5967
Email: saito@pegasys-inc.com

For NVIDIA,
Taichi Hirayanagi, Japan Marketing Manager
Tel +81-3-6743-8713
Email: thirayanagi@nvidia.com

PEGASYS